WEST VIRGINIA
DIVISION OF HIGHWAYS

DIVISION 100
GENERAL PROVISIONS

CONSTRUCTION
MANUAL

2002

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5/5/2004	110(1)	Oveerview of Purpose - Contract Time
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8/4/2004	105(7) to 105(11)	Claims Warning Signs
8/4/2004	111(1) to 111(2)	Photographs and Videotapes
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Section 101

ORGANIZATION, ADMINISTRATION, AND POLICY

101.1 WVDOT DIVISION OF HIGHWAYS

The WVDOT Division of Highways (DOH) is organized to plan, design, construct, and maintain an adequate system of safe public roadway facilities capable of meeting the traffic needs of the State. The DOH also performs many other functions such as highway research, traffic regulation, right-of-way acquisition, safety and weight enforcement, and dissemination of highway information.

The Division of Highways is organized under the supervision of the Secretary of Transportation/Commissioner of Highways who is appointed by the Governor as shown in Figure 101A. The DOH consists of various Divisions, each of which is administered by a Division Director. The Central Office of the DOH is located in Charleston, West Virginia. The functions of the various DOH Central Office Divisions are discussed in the following sections. For additional information, visit the WVDOH Internet Web Site.

101.1.1 Deputy Commissioner

The Deputy Commissioner oversees the activities of the Planning and Research Division, Economic Development, and Legislative Services, as discussed in the following sections.

101.1.1.1 Planning and Research Division

The Planning and Research Division is responsible for:

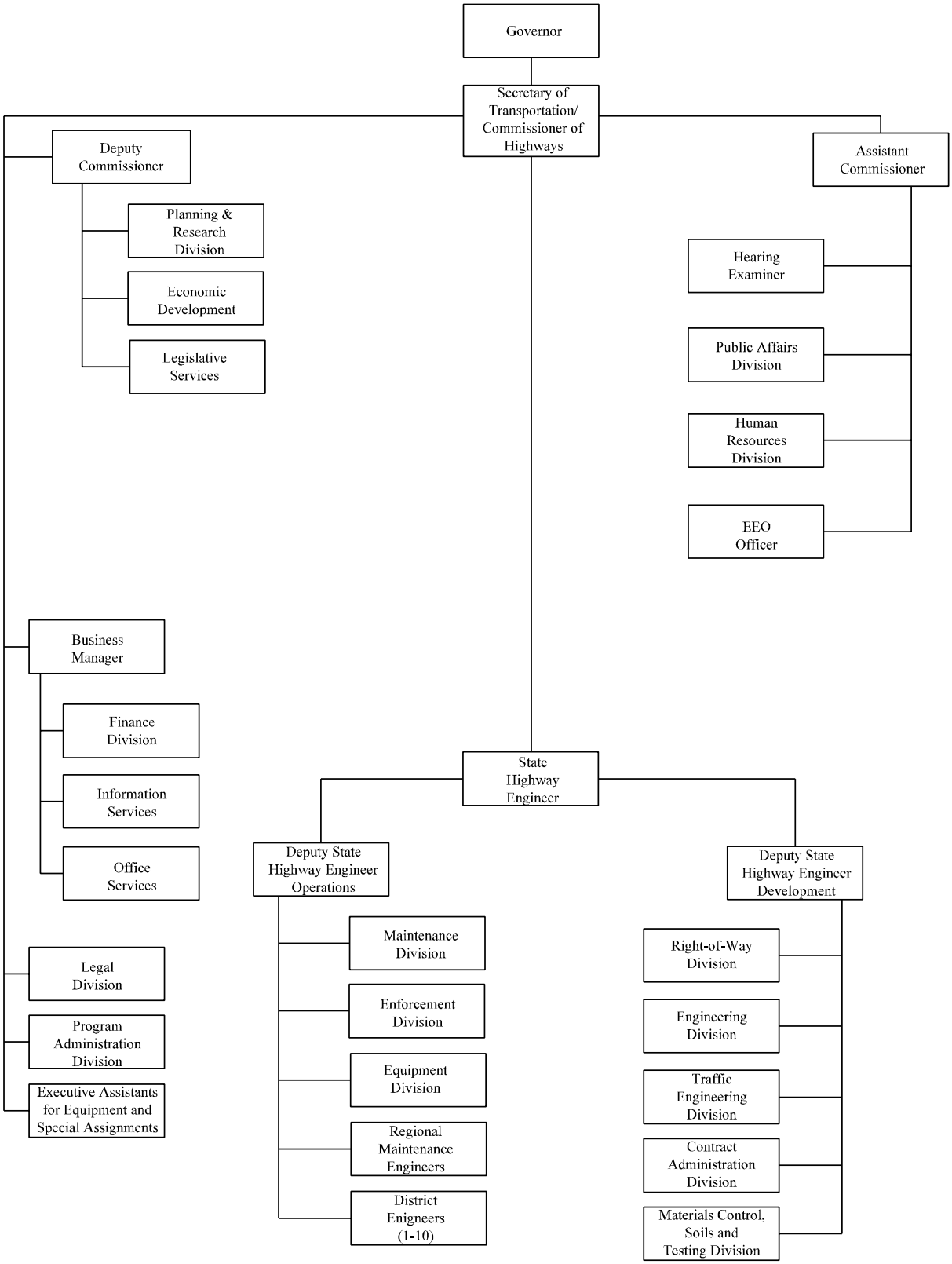
1. collecting and forecasting traffic data for roadways under DOH jurisdiction;
2. classifying roadways according to required levels-of-service, identifying inadequacies, and developing plans to meet the needs identified;
3. performing preliminary engineering studies of travel corridors and proposed highway projects and developing alternative plans for social, economic, and environmental goals;
4. preparing maps for use by DOH and the general public and maintaining a database of the physical characteristics of roadways under DOH jurisdiction;
5. conducting urban transportation studies in cooperation with local and regional authorities; and
6. administering highway research studies conducted in-house or under separate contract.

101.1.1.2 Economic Development

Economic Development is primarily responsible for providing information on how economic development is affected by the roadway system within the State.

101.1.1.3 Legislative Services

Legislative Services is primarily responsible for matters pertaining to liaison with the West Virginia Legislature.



WVDOT DIVISION OF HIGHWAYS ORGANIZATION
Figure 101A

101.1.2 Business Manager

The Business Manager oversees the functions of the Finance Division, Information Services, and Office Services, as discussed in the following sections.

101.1.2.1 Finance Division

The Finance Division is primarily responsible for:

1. payment of vendors' invoices for all goods and services procured by the DOH;
2. payroll administration for all DOH employees;
3. coordination of PEIA policies and procedures with other DOH organizations;
4. management of the DOH accounting system;
5. preparation of financial reports for monitoring cash receipts, disbursements, and investments;
6. billing and collection of moneys due the DOH;
7. coordinating the fiscal relationship and program responsibilities between DOH and the Federal Highway Administration;
8. third-party contract audits of costs incurred by railroads, utilities, consultants, governmental agencies, universities, nonprofit organizations, and contractors;
9. internal audits of DOH Division and District operations to provide independent appraisals on DOH programs; and
10. performing independent evaluations of existing activities and procedures related to highway construction and maintenance, including reviewing records and inspecting the physical features of highway projects, maintenance operations, and auxiliary support facilities to assure that resources are being acquired, protected, and utilized economically and efficiently and to assure compliance with DOH administrative operating procedures, regulations, and laws.

101.1.2.2 Information Services

Information Services is primarily responsible for the information technology direction of the DOH, including:

1. determining the requirements and feasibility of new automated functions;
2. developing and supporting new information systems, engineering, and specialty applications;
3. maintaining and supporting existing PC/LAN network and mainframe information systems, such as BAMS, EBS, and electronic mail systems on a statewide basis;
4. establishing standards, procuring and maintaining equipment and software; and
5. providing training on supported systems.

101.1.2.3 Office Services

Office Services provides services to all DOH Divisions for printing, microfilming, building maintenance, equipment repair, order and delivery of stocked supplies, electrical services, and mail delivery.

101.1.3 Legal Division

The Legal Division is responsible for:

1. providing legal advice and guidance to the Commissioner or designee;

2. implementing condemnation proceedings for the acquisition of right-of-way;

3. representing the Secretary of Transportation/ Commissioner of Highways and the DOH in legal proceedings in the State court system;

4. drafting legal documents and providing for the review and approval of legal documents prepared by others before execution;

5. coordinating claims pertaining to damage to DOH facilities and/or equipment, personal injuries, and property damage suits; and

6. representing the DOH in claims filed in the Court of Claims, in claims involving Workers Compensation, in grievances before the West Virginia Education and State Employees Grievance Board, and in complaints filed with the West Virginia Human Rights Commission.

101.1.4 Program Administration Division

The Program Administration Division provides programming and systems analysis services, including the financial management of State-funded projects and the programming and scheduling of Federal-Aid projects.

101.1.5 Executive Assistants for Equipment and Special Assignments

Executive Assistants for Equipment and Special Assignments support the needs of the Secretary of Transportation/Commissioner of Highways as assigned.

101.1.6 Assistant Commissioner

The Assistant Commissioner oversees the functions of the Hearing Examiner, Public Affairs Division, Human Resources Division, and the EEO Officer, as discussed in the following sections.

101.1.6.1 Hearing Examiner

The Hearing Examiner provides legal services and conducts legal hearings and proceedings relative to grievances at the third level of the state employee's grievance process.

101.1.6.2 Public Affairs Division

The Public Affairs Division provides liaison with media sources and provides photographic and graphic art services for media promotions.

101.1.6.3 Human Resources Division

The Human Resources Division provides special programs, recruitment and training services, employee benefits services, general office administration services, and provides for the oversight of payroll and employee classification matters. The Human Resources Division also maintains records on individuals who have passed examination in the DOH Certification Program.

101.1.6.4 EEO Officer

The EEO Officer develops, implements, and monitors a comprehensive EEO Program within the DOH and with consultants, contractors, vendors, and others doing business with DOH. Additionally, the EEO Officer administers the Disadvantaged Business Enterprise Program, the Title VI Program, and the Americans with Disabilities Act.

101.1.7 Deputy State Highway Engineer – Operations

The Deputy State Highway Engineer – Operations oversees the functions of the Maintenance Division, Enforcement Division, Equipment Division, Regional Maintenance Engineers, and District Engineers, as discussed in the following sections.

101.1.7.1 Maintenance Division

The Maintenance Division is responsible for:

1. establishing maintenance policies and standards for DOH highway facilities;
2. monitoring maintenance operations to ensure statewide uniformity;
3. providing certain project development, engineering support, and bridge evaluation services;
4. establishing long-range maintenance goals;
5. providing liaison between field maintenance and Central Office organizations;
6. coordinating intra-District maintenance operations;
7. providing assistance to field maintenance organizations during emergencies; and
8. coordinating building and grounds activities statewide.

101.1.7.2 Enforcement Division

The Enforcement Division is responsible for:

1. enforcing laws pertaining to weight, size, and length of trucks, motor vehicle registration and inspection, and motor carrier road tax on commercial vehicles;
2. operating a statewide vehicle weight and dimension permit system;
3. enforcing laws pertaining to outdoor advertising signs and salvage yards; and
4. managing the DOH Safety Program.

101.1.7.3 Equipment Division

The Equipment Division provides the ten DOH District equipment shops and the equipment shop of the Materials Control, Soils and Testing Division many services. These include technical advice, shop operations, fleet comptroller, equipment and parts purchasing and inventory, equipment operation and maintenance training, fleet planning, equipment maintenance management, fleet communication and records management, and vehicle damage claims processing. The Equipment Division also provides major equipment maintenance and repairs and coordinates the purchase of vehicle fuels and lubricants.

101.1.7.4 Regional Maintenance Engineers

There are three Regional Maintenance Engineers who oversee the highway maintenance operations of Districts 1 through 3, Districts 4 through 7, and Districts 8 through 10, respectively.

101.1.8 Deputy State Highway Engineer – Development

The Deputy State Highway Engineer – Development oversees the functions of the Right-of-Way Division, Engineering Division, Traffic Engineering Division, and the Contract Administration Division. The following sections briefly discuss the functions of each Division.

101.1.8.1 Right-of-Way Division

The Right-of-Way Division acquires the real estate necessary for the construction and maintenance of roadways under DOH jurisdiction. The Division is responsible for real estate closings, appraisals, railroad agreements, utility agreements, agreements related to the sale of buildings and land improvements, relocating families and businesses, and relocating cemeteries and graves.

101.1.8.2 Engineering Division

The Director of the Engineering Division oversees the survey, design and preparation of the Contract Plans and Specifications for construction projects on the State Highway System. The Engineering Division also is responsible for public meetings, public hearings, and location and design approvals. Figure 101B shows the organization of the Engineering Division. The functions of each Section of the Engineering Division are:

1. Administrative Section. The Administrative Section provides financial, administrative, information management, and office support services.

2. Consultant Services Section. The Consultant Services Section prepares advertisements for most Consultant-supplied services, conducts scope-of-work meetings, negotiates fees, and prepares legal agreements between DOH and consultants, government agencies, and private entities. The Section also administers the qualification process for consultants.

3. Consultant Review Section. The Consultant Review Section is responsible for reviewing the acceptability of consultant design plans.

4. State Bridge Engineer. The State Bridge Engineer is responsible for administering the DOH policies related to the design of bridge structures.

5. Environmental Services Section. The Environmental Services Section prepares environmental documents for highway projects required by the National Environmental Policy Act, the Department of Transportation's Regulations Act, and Executive Orders. The Section also provides liaison between various resource government agencies and DOH. The Environmental Services Section performs reconnaissance surveys for DOH projects and coordinates with consultants, State and Federal agencies, and other DOH Divisions.

6. In-House Design Section. The In-House Design Section is responsible for the survey and in-house preparation of plans and specifications for projects on the State Highway System.

7. Technical Services Section. The Technical Services Section provides technical support for DOH engineering documents (e.g., **Standard Specifications**, **Design Directives, Drainage Manual**, **Standard Details**, **Erosion & Sediment Control Manual**, **Pavement Design Manual**). The Section also performs preliminary studies for bridge replacement projects, conducts hydraulic studies, coordinates railroad and utility agreements, oversees the processing of environmental permit applications, and prepares PS&E's for all projects.

101.1.8.3 Traffic Engineering Division

The Traffic Engineering Division is responsible for traffic signs, signals, pavement markings, and highway lighting on the State Highway System, including:

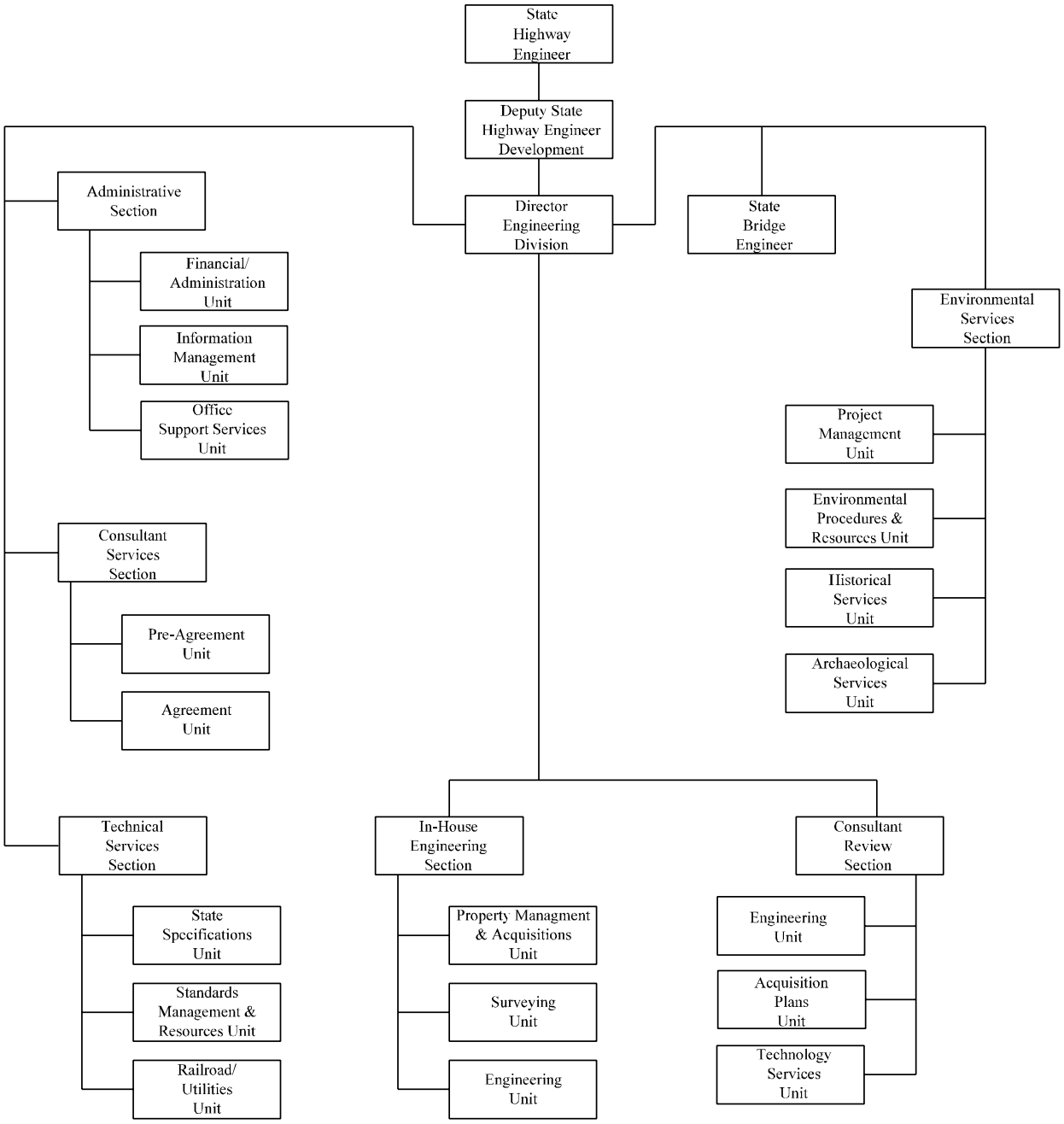
1. establishing speed zones on State-maintained streets and highways;

2. identifying safety improvements at railroad-highway crossings;

3. regulating parking on State highways;

4. overseeing the installation of school zone and other warning flashers;

5. overseeing the Interchange Logo Signing Program for businesses;



WVDOT DIVISION OF HIGHWAYS
ENGINEERING DIVISION ORGANIZATION
Figure 101B

6. installing motorist service signs;

7. establishing procedures for constructing driveway entrances on State highways; and

8. vehicular crash reporting, record keeping, and data analysis.

101.1.8.4 Contract Administration Division

The Contract Administration Division is responsible for administering all DOH highway construction projects. The organization of the Contract Administration Division is shown in Figure 101C. The Director of the Contract Administration Division reports to the Deputy State Highway Engineer – Development. The Contract Administration Division oversees the External Contract Compliance Section, Special Projects Engineer, Regional Construction Engineers, and the Administrative Section. The Contract Administration Division initially becomes involved in a project during the design phase and attends the preliminary and final field checks. The responsibilities of the Sections within the Contract Administration Division are as follows:

1. External Contract Compliance Section. The External Contract Compliance Section is responsible for investigating Contractor compliance with contract labor laws, rules, and regulations. Specifically, the Section reviews EEO and Affirmative Action compliance, monitors goals for minority and female participation, conducts personnel training reviews, monitors compliance with the On-the-Job Training Program, investigates external complaints regarding discrimination, and monitors compliance with the Davis-Bacon Act. See Section 107.3.2 for additional information on the OJT Program.

2. Special Projects Engineer. The Special Projects Engineer is responsible for the establishment of all Consultant inspection agreements, maintenance of the **WVDOH Construction Manual**, and other duties as assigned by the Director of the Contract Administration Division.

3. Regional Construction Engineers. The Regional Construction Engineers oversee the highway construction operations of their respective Districts. The District Construction Engineers of the ten DOH Districts coordinate with the Central Office through their respective Regional Construction Engineer. The Regional Construction Engineers are responsible for the review, coordination, and approval of engineering practices, procedures, and contract modifications related to field activities.

4. Administrative Section. The Administrative Section oversees the following:

   a. Prequalification and Accounting Unit. The Prequalification and Accounting Unit is responsible for the prequalification of bidders. The Unit also processes invoice payments relative to Consultant Agreements for materials inspection and project construction inspection.

   b. Contract Unit. The Contract Unit is responsible for advertising all highway contracts, selling and distributing bid documents/publications to Contractors, managing the Electronic Bidding System (EBS), updating the WVDOT/DOH Internet Website relative to contractual information, and coordinating work related to the execution of contracts, contract bonds, and insurance certificates.

   c. Personnel Payroll Unit. The Personnel Payroll Unit is responsible for review of personnel classifications and payroll processing activities.

   d. Finalization Unit. The Finalization Unit establishes and monitors the finalization policies and procedures administered at

the District and project levels. The Unit also oversees Contractor performance for progress and final payments. This includes reviews to determine compliance with material quality and certification requirements and to mathematically check quantities for work and material pay items on Federal non-exempt contracts greater than $1 million in cost.

101.1.8.5 Materials Control, Soils and Testing Division

The MCS&T Division is responsible for administering all activities related to materials control, soils and testing for DOH highway construction projects. The organization of the MCS&T Division is shown in Figure 101C. The Director of the MCS&T Division reports to the Deputy State Highway Engineer – Development. The responsibilities of the MCS&T Division are as follows:

1. Quality Assurance Section. The Quality Assurance Section is responsible for administering roadway quality testing and reviewing procedures for roadway construction and maintenance projects. This includes establishing smoothness requirements, performing independent field testing, and overseeing the implementation of roadway quality testing and analysis. This Section also develops Consultant Materials Inspection Agreements and oversees the calibration and repair of testing instruments (e.g., nuclear density testing devices).

2. Aggregate and Soils Section. The Aggregate and Soils Section maintains the DOH Approved Material Source/Product List, performs aggregate and soil testing required at the Division level, reviews District laboratories for conformance to minimum requirements, and reviews District and Contractor testing procedures and documentation.

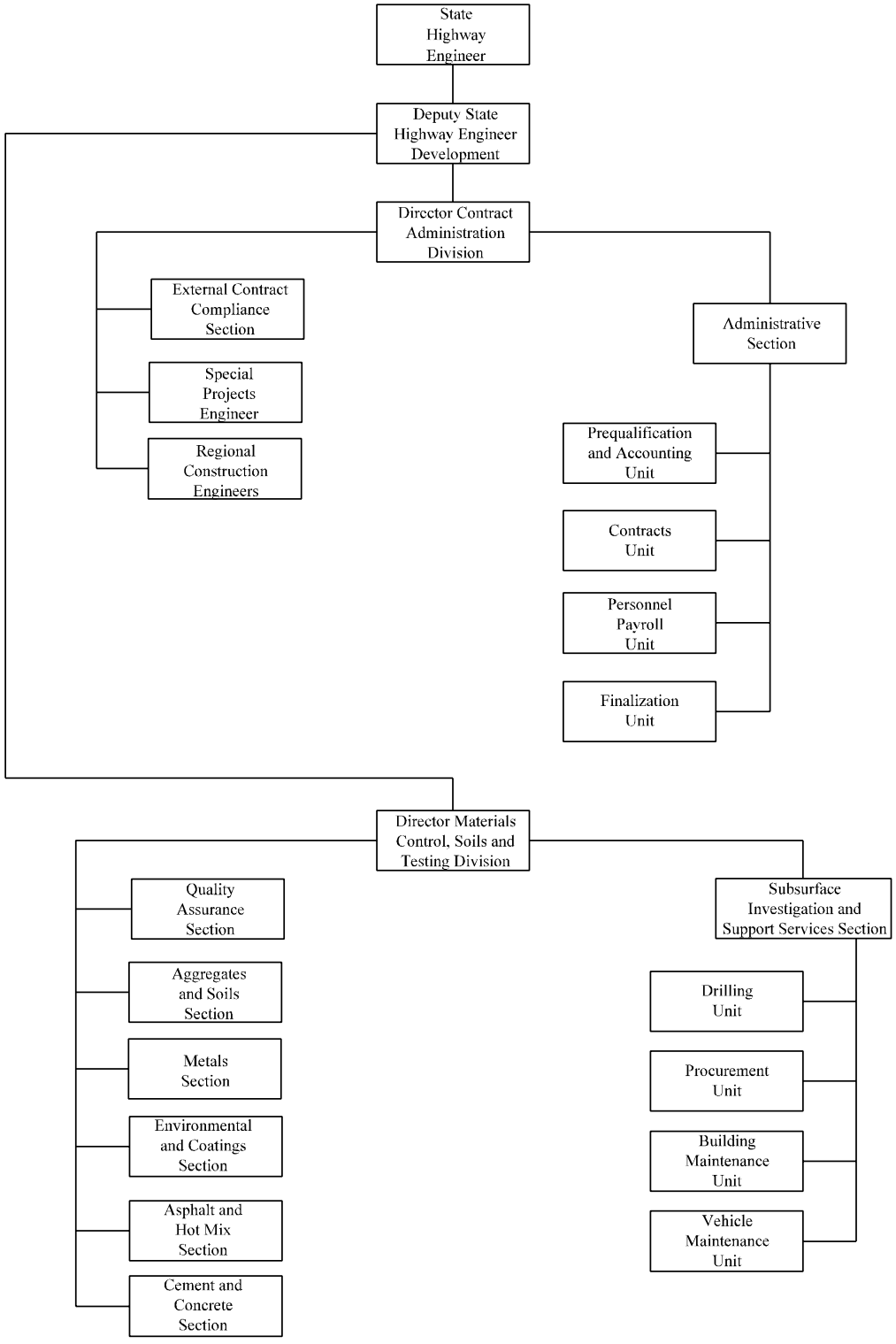
3. Metals Section. The Metals Section is responsible for the quality assurance testing of metal materials used in highway and bridge projects. This Section inspects structural steel, reinforcing steel, fasteners, and signing materials at the fabrication site and performs bolt rotational capacity tests at both point of manufacture and the project site.

4. Environmental and Coatings Section. The Environmental and Coatings Section is responsible for all environmental issues in construction projects including underground storage tanks and hazardous waste disposal. This Section is also responsible for approving paint materials and painting procedures, coatings for pipe or other items, and manufacturers and suppliers of paint and coating materials.

5. Asphalt and Hot Mix Section. The Asphalt and Hot Mix Section establishes procedures for mix design and testing of asphalt concrete. This Section reviews field and laboratory testing procedures for asphalt concrete and monitors mix designs and material components.

6. Cement and Concrete Section. The Cement and Concrete Section establishes procedures for mix design and testing of Portland cement concrete and maintains test records of PCC sources for the DOH Approved Material Source/Product Listing. This Section reviews all PCC mix designs incorporated in projects and administers the DOH Certification Program related to PCC technology.

7. Subsurface Investigation/Support Services. The Subsurface Investigation and Support Services Section is responsible for coring and pavement thickness investigations, soil borings and boring logs, and related procurement, building, and vehicle maintenance services.



WVDOT DIVISION OF HIGHWAYS
CONTRACT ADMINISTRATION DIVISION AND MCS&T DIVISION ORGANIZATION
Figure 101C

101.1.9 District/Project Organization

The State is divided into ten DOH Districts. Each District has jurisdiction over their respective counties as follows:

1. District 1 – Boone, Clay, Kanawha, Mason, and Putnam counties.

2. District 2 – Cabell, Lincoln, Logan, Mingo, and Wayne counties.

3. District 3 – Calhoun, Jackson, Pleasant, Ritchie, Roane, Wirt, and Wood counties.

4. District 4 – Doddridge, Harrison, Marion, Monongalia, Preston, and Taylor counties.

5. District 5 – Berkeley, Grant, Hampshire, Hardy, Jefferson, Mineral, and Morgan counties.

6. District 6 – Brooke, Hancock, Marshall, Ohio, Tyler, and Wetzel counties.

7. District 7 – Barbour, Braxton, Gilmer, Lewis, Upshur, and Webster counties.

8. District 8 – Pendleton, Pocahontas, Randolph, and Tucker counties.

9. District 9 – Fayette, Greenbrier, Monroe, Nicholas, and Summers counties.

10. District 10 – McDowell, Mercer, Raleigh, and Wyoming counties.

The organization of each DOH District varies somewhat because of its size, workload, and local conditions. A generally applicable District organization is shown in Figure 101D. The District Engineer is responsible for all operations within the District and will utilize, as needed, the services provided by the DOH Central Office Divisions. Each District is generally organized into two primary groups – construction and maintenance operations.

101.1.9.1 District Maintenance Operations

The District Maintenance Engineer is responsible for District maintenance personnel, equipment, equipment shop, sign shop, building and grounds, and any use of District forces.

101.1.9.2 District Construction Operations

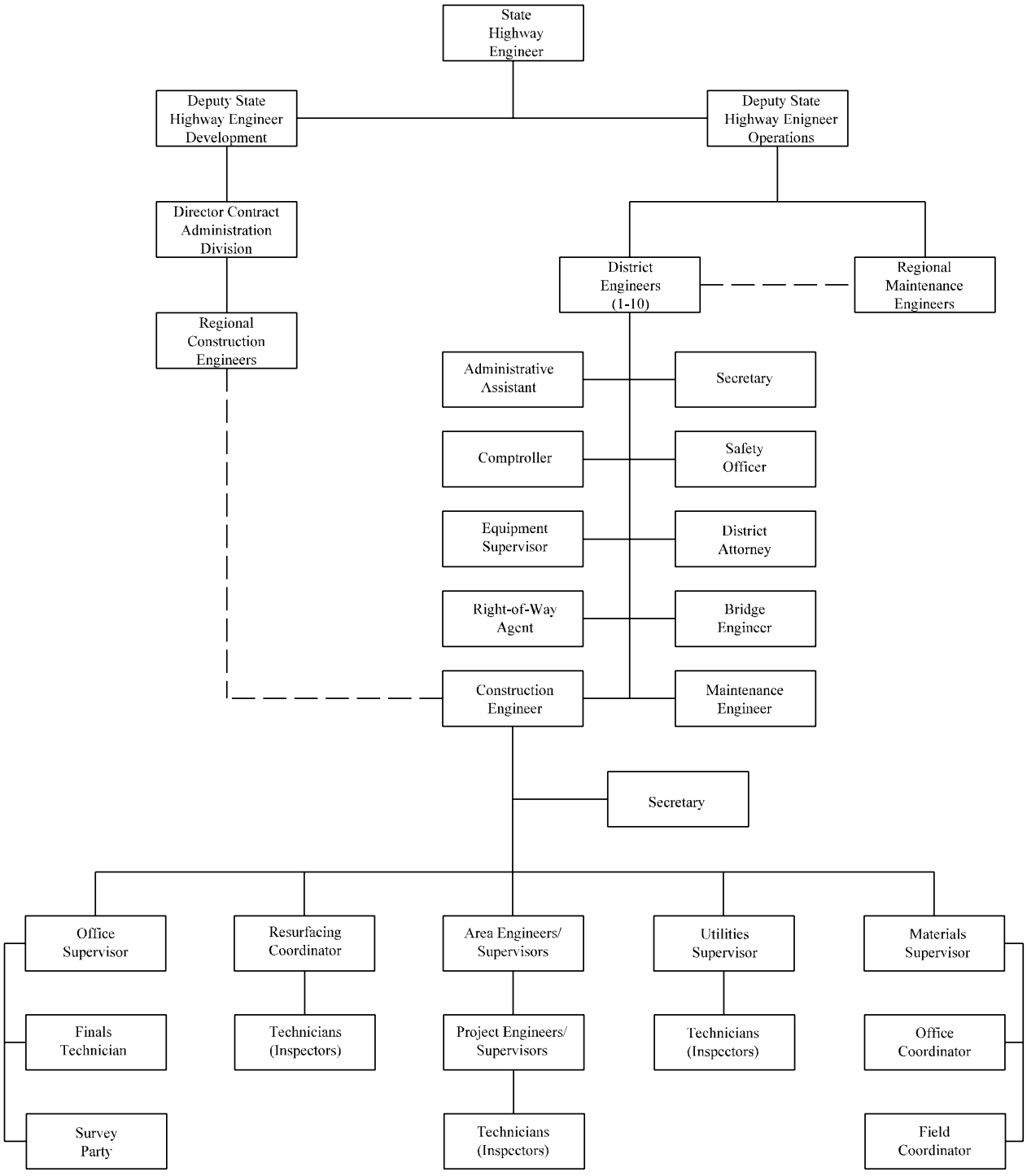
The following discusses the responsibilities of key District construction personnel:

1. District Construction Engineer. The District Construction Engineer is directly responsible for all aspects of District construction including project progress and priorities, personnel assignments, personnel and public safety, project surveys, utility coordination, project inspection and reviews, project records, and materials control operations. The Construction Engineer will periodically visit projects to verify progress and check that construction is being performed in accordance with State law, DOH policies, and the contract specifications. As needed, the District Construction Engineer also will report to the District Engineer the findings and recommendations of any special studies needed to resolve problems.

2. District Materials Supervisor. The District Materials Supervisor directs all materials control operations within the District. The Supervisor is responsible for ensuring that all District projects follow DOH materials policies and procedures for quality control and assurance. The duties of the District Materials Supervisor include:

    a. becoming knowledgeable on DOH specifications and certification procedures for all materials used within the District;

    b. maintaining liaison with the Contract Administration Division – Finalization Unit and the Materials Control, Soils and Testing Division;



WVDOT DIVISION OF HIGHWAYS
DISTRICT ORGANIZATION
Figure 101D

c. maintaining a close working relationship with all Project Engineers/Supervisors within the District;

d. supervising commercial asphalt and concrete plant inspections;

e. supervising mobile laboratories within the District;

f. assisting District personnel when materials are an issue on District maintenance and construction projects; and

g. providing recommendations to the District Construction Engineer on any materials that do not comply with DOH specifications.

101.1.9.3 Project Organization

The organization and scheduling of DOH and Contractor personnel and equipment will depend on the type, scope, and schedule of the project. Figure 101E provides recommended project staffing guidelines. To accommodate DOH personnel on large projects, a physical building or trailer may be needed for use as a field office; however, small jobs may only necessitate the use of a truck for monitoring and inspection purposes. District Project Engineers/Supervisors and Project Inspectors are the primary DOH representatives in charge of monitoring, inspecting, and accepting/rejecting the Contractor's work and the materials delivered to the project site. The Project Engineer/ Supervisor's primary point-of-contact with the Contractor is the Contractor's Project Superintendent. The following describes the roles and responsibilities of key personnel at the project level:

1. Project Engineer/Supervisor. A Project Engineer/Supervisor within the District will be assigned to the project. A Project Engineer/ Supervisor may be responsible for simultaneously supervising several District projects. In Districts that have many ongoing projects or complex construction activities, a District Area Engineer/ Supervisor may be assigned to supervise a group of Project Engineers/Supervisors. The Project Engineer/Supervisor oversees all aspects of a project including personnel, construction and materials inspection, progress monitoring, and reviewing and approving documentation (e.g., Supervisor's Daily Reports – Form 442-SDR, Inspector's Daily Reports – Form 442-IDR, PRS entries). The Project Engineer/Supervisor accepts or rejects contract items and materials based on the requirements of the plans and specifications. Other DOH District personnel (e.g., Project Inspectors, survey crews) will be assigned, as needed, to assist the Project Engineer/Supervisor. The Project Engineer/Supervisor maintains close contact with the DOH Project Inspectors and the Contractor's Project Superintendent. The Project Engineer/Supervisor also will have frequent contact with adjacent property owners, municipal officials, utility representatives, and the traveling public.

2. Project Inspectors. On large and complex projects with many activities, a Chief Project Inspector may be assigned to supervise a group of Project Inspectors. The Project Inspector is responsible for monitoring, inspecting, and documenting on a daily basis that construction practices and material quality meet the requirements of the plans and specifications. A Project Inspector typically may be responsible for multiple activities and ensuring that the Contractor produces an end product in compliance with the plans and specifications.

3. Contractor's Project Superintendent. The Contractor's Project Superintendent is the Contractor's authorized representative who is responsible for the quality of work and materials incorporated into the project. The Project Superintendent is the Contractor's primary point-of-contact with DOH

PERSONNEL TYPE	PROJECT TYPE				
	Large Grade, Drain and Pave①	Small Grade, Drain and Pave②	Major Structure③	Small Structure or Miscellaneous Improvement	Resurfacing
Project Engineer/Supervisor	1	1	1	1	—
Assistant Project Engineer/Supervisor	1	—	—	—	—
Office Technician	1	1	1	—	—
Field Inspector	2	1	1	1	2
Structure Inspector	See Note ④	See Note ④	1	—	—
Traffic Inspector	1	—	—	—	—
Quality Assurance Inspector	1	1	—	—	—
Add for Double Shift	See Note ⑤	See Note ⑤	—	—	—
TOTAL PERSONNEL	≥7	≥4	4	2	2

Notes:

1. *Large — Over $15 million.*
2. *Small — $5 million to $15 million.*
3. *Major Structure — Over $4 million.*
4. *Add 1 Structure Inspector per bridge.*
5. *Add 1 Field Inspector for double shift.*

TYPICAL PERSONNEL REQUIREMENTS FOR NORMAL DAILY OPERATIONS OF A PROJECT
Figure 101E

construction activities and directs all Contractor and subcontractor personnel during project construction (e.g., equipment superintendent, foremen, laborers, equipment operators).

101.1.10 WVDOT – DOH Internet Web Site

To better serve its customers, the DOH provides significant information on the WVDOT – DOH Internet Web Site. As required by law, the DOH advertises construction contracts to be let to bid in local newspapers and on the DOH Web Site. The site makes available to the public, consultants, and contactors the following information:

1. notices of projects scheduled for letting;

2. publications and manuals on design and construction, specifications, materials requirements, and construction policies;

3. information on consultants, prequalification, requests for professional services, and the consultant selection process;

4. information on prequalified contractors, project schedules and locations, current and archived contract lettings, Electronic Bidding System, contract awards, and average unit bid prices; and

5. information on the status of ongoing construction projects; and

6. maps, statistics, and travel information.

101.1.11 WVDOH Intranet

The WVDOH Intranet serves customers within the DOH itself providing on-line reports, forms and publications, the document imaging system, and the Contract Administration project tracking system.

101.2 FEDERAL HIGHWAY ADMINISTRATION

101.2.1 General

The Federal Highway Administration (FHWA) administers the Federal-aid program that funds eligible highway improvements nationwide. Their basic responsibility is to ensure that the State SHAs comply with all applicable Federal laws, policies and procedures in their expenditure of Federal funds and to ensure that the State DOTs meet the applicable engineering, legal and administrative requirements for their Federally funded highway projects.

FHWA maintains a Division Office within each State, and this is the primary point of contact for a State SHA. The Division Administrator is delegated wide authority for administration of the program in accordance with policies established by the headquarters office of the Federal Highway Administration.

The FHWA West Virginia Division Office uses an Area Engineer organization to fulfill its responsibilities within the State. Each Area Engineer is responsible for all Federal-aid highway activities within his/her area for both pre-construction and construction activities. In addition, the West Virginia Division Office has designated “specialists” in specific highway functional areas (e.g., construction, environment, bridges, road design, financial affairs).

101.2.2 FHWA/West Virginia Relationship

101.2.2.1 Stewardship Agreement

Pursuant to the Transportation Equity Act for the 21st Century (TEA-21), the WVDOT and FHWA have adopted a Stewardship Agreement. Its basic purpose is to define the operational relationship between WVDOT and FHWA by documenting the basic standards and procedures for use in the Federal-aid highway program. This applies to planning, design, construction and maintenance.

101.2.2.2 Project Types

WVDOH will place each proposed Federal-aid project in one of the following categories:

1. NHS Non-Exempt. Those projects on the National Highway System (NHS) for which the WVDOH is not exempt from project-level FHWA review and oversight.

2. NHS Exempt. Those projects on the National Highway System (NHS) for which the WVDOH is exempt from project-level FHWA review and oversight. On exempt projects, WVDOH is responsible for ensuring that all applicable policies, standards and regulations are met.

3. Non-NHS Exempt. The WVDOH is exempt from project-level FHWA review and oversight on all projects not on the NHS, except traffic surveillance and control projects exceeding $1,000,000. On exempt projects, WVDOH is responsible for ensuring that all applicable policies, standards and regulations are met.

4. Concurrence. For certain projects on the NHS, the WVDOH may propose that the FHWA provide project-level oversight by concurrence. These projects are administered as NHS non-exempt projects.

In the absence of significant changes in the project scope, the project type designation in pre-construction will be retained for the construction phase of the project.

101.2.2.3 FHWA Role in Construction

FHWA will fulfill its responsibilities as an oversight agency in one of two basic approaches:

1. Project-Level. On non-exempt NHS and concurrence projects, FHWA will be involved in the approval of all major construction activities. These include contract award, change orders, time extensions, changes to the plans, specifications and estimates, and periodic field inspections. See Figure 101F for the FHWA project-level role based on the type and cost of the project. Any change in contractual or documentation requirements must be submitted to the Contract Administration Division and the FHWA by a Record of Contact (Form 427) prepared at the project or District level.

2. Continuous Process Improvement Studies. FHWA and WVDOH will mutually establish teams to periodically review and evaluate specific major construction activities. This will typically involve selected in-depth field inspections on active construction projects as part of the process review. Continuous Process Improvement Studies will typically be limited to the NHS.

101.2.3 FHWA Relationships

The relationship between FHWA and WVDOH does not directly involve the Contractor. FHWA representatives inspect the project to review the Department's procedures, which require the project to be constructed according to the commitments in the Stewardship Agreement. The FHWA's representative is reviewing the State's performance and not the Contractor's. FHWA has neither the responsibility nor authority to interact directly with the Contractor relative to ensuring compliance with the plans and specifications.

All Department employees are urged to cooperate with the FHWA during all phases of the Contract. Construction personnel must be courteous to FHWA representatives whenever they conduct their reviews. FHWA personnel have been delegated to review construction activities relating to progress, quality, contractor's payrolls, etc. They may also take field measurements, review test procedures and results, or investigate requested contract changes. Comments made by the FHWA

Construction Activity	Interstate New Construction/Reconstruction Projects		Interstate 3R Projects		NHS New Construction/ Reconstruction Projects (Non-Interstate)		Traffic Surveillance and Control Projects		NHS 3R Projects (Non-Interstate), Non-NHS Projects, Miscellaneous Projects
	≥$1M	<$1M	≥$2M	<$2M*	≥$5M	<$5M	≥$1M	<$1M	Any Construction Cost
Contract Award Concurrence	A	E	C	E	C	E	C	E	E
Change Orders	A	E	C	E	C	E	C	E	E
Contractor Claims	A	E	C	E	C	E	C	E	E
Joint Construction Reviews	A	E	C	E	C	E	C	E	E
Final Inspections	A	E	C	E	C	E	C	E	E
Final Acceptance	A	E	C	E	C	E	C	E	E

A – approval actions and regular involvement
C – Concurrence
E – Exempt
* - Interstate 3R projects > $1 million exempted on a project-by-project basis

FHWA PROJECT INVOLVEMENT IN FEDERAL-AID CONSTRUCTION
Figure 101F

representatives should be noted in the IDR, and issues that require action by the Department should be referred to the Construction Engineer. All correspondence to FHWA shall be submitted through the Central Office for proper signature.

101.3 PERSONNEL RESPONSIBILITIES

101.3.1 General

DOH project personnel have the responsibility of promoting good working relationships with each other. Each Project Inspector is expected to follow the instructions of the Project Engineer/Supervisor. Each Project Engineer/ Supervisor will demonstrate conduct that earns the full support and cooperation of the Project Inspectors. It is important to keep each other fully informed on daily project activities including progress, problems and resolutions, needed plan or schedule modifications, and upcoming schedules. All of these items should be noted on the IDR and attachments. Both Project Engineers/ Supervisors and Project Inspectors must fully understand their respective responsibilities and authority. They are representatives of the DOH and the District Construction Engineer on the project. Project Engineers/Supervisors and Project Inspectors are responsible for verifying Contractor performance and compliance with applicable specifications and contract requirements.

101.3.2 Project Engineer/Supervisor

The Project Engineer/Supervisor may be responsible for inspecting on or a group of highway projects. The Engineer/Supervisor will supervise personnel, assign tasks, and provide technical advice to Project Inspectors. The Project Engineer/Supervisor will apply a broad knowledge of field-testing and inspection techniques to ensure that the quality of workmanship and materials conform to the plans and specifications and that the construction meets the terms of the Contract. The Project Engineer/Supervisor holds frequent discussions with Project Inspectors and the Contractor's Project Superintendent to resolve problems in the field requiring interpretation of the plans and specifications. The discussions and any subsequent decisions are to be noted on the IDR. The Project Engineer/Supervisor serves as liaison between the field and the District Office to keep the Construction Engineer apprised of progress and problem resolution. Supervision is received from the District Construction Engineer through periodic discussions and reviews. Example responsibilities of the Project Engineer/Supervisor include:

1. determining inspection needs and assigning Project Inspectors to ensure adequate inspection;

2. instructing Project Inspectors on inspection techniques and field testing methods;

3. interpreting contractual requirements for Project Inspectors and the Contractor's Project Superintendent;

4. investigating property owner complaints arising from conflicts between construction and right-of-way agreements;

5. checking and approving Inspector's Daily Reports Form 442-IDR and all attachments and documentation. The Project Engineer/Supervisor should ensure the timely entry of applicable data into the Project Records System and timely uploading of materials data from the Project Records System;

6. preparing Supervisor's Daily Reports Form 442-SDR for project documentation and for entry of applicable data into the Project Records System;

7. utilizing the Project Records System to administer the Contract, manage the project, prepare correspondence, and generate reports and other documentation relative to the project;

8. verifying progress and final estimates and discussing any discrepancies with the Project Inspectors;

9. maintaining a perspective overview regarding Federal, State, and local laws regulating construction procedures, safety practices, and working conditions;

10. inspecting work in progress to check that methods, materials, and equipment conform to the contract specifications; and

11. supervising the training of Project Inspectors, evaluating performance, and recommending promotions and transfers.

101.3.3 Chief Project Inspector

The Chief Project Inspector, if assigned, aids in supervision of inspection work on highway projects. Assignments are of an independent nature and include responsibility for inspecting and supervising the inspection work on a complex project. The Chief Project Inspector is responsible for assigning and supervising Project Inspectors to ensure that all phases of the work receive adequate inspection. Supervision is received from the Project Engineer/Supervisor. Example responsibilities of the Chief Project Inspector include:

1. inspecting all phases of work on a project and advising the Contractor's Project Superintendent/Foremen of necessary action to ensure conformance with the contract plans and specifications;

2. reviewing the daily performance of Project Inspectors and advising them as necessary;

3. answering questions from Project Inspectors and the Contractor's Project Superintendent/Foremen on contractual requirements;

4. preparing and/or reviewing Inspector's Daily Reports Form 442-IDR and Attachments and forwarding them to the Project Engineer/ Supervisor for project documentation and for entry into the Project Records System;

5. monitoring the materials data upload process;

6. preparing and/or checking progress estimates and forwarding them to the Project Engineer/Supervisor;

7. performing occasionally any or all of the duties of a Project Inspector when required by volume of work;

8. supervising training of Project Inspectors assigned to the project; and

9. preparing and reviewing Records of Contact (Form 427) prior to submission to the Project Engineer/Supervisor.

101.3.4 Project Inspector

The Project Inspector inspects construction under the supervision of a Project Engineer/Supervisor or a Chief Project Inspector. Assignments depend on the scope or complexity of the project. The work is distinguished from a trainee by the requirements of relatively independent decisions, actions, and relationships with the Contractor's Project Superintendent/Foremen and the public. Providing assistance in training and supervision of trainees are requirements of the work. Example responsibilities of the Project Inspector include:

1. inspecting assigned phases of work on a project and making official contact with the Contractor's Project Superintendent/ Foremen to ensure conformance with the contract plans and specifications;

2. frequently checking and noting on the IDR line, grade, and dimensions of roadways and structures and advising the Contractor's

Project Superintendent/Foremen of any discrepancies;

3. checking construction operations where specific methods are dictated and specifying corrective action for any variances;

4. ascertaining that traffic signs are erected and maintained for the safety and convenience of the traveling public;

5. preparing Inspector's Daily Reports Form 442-IDR and Attachments for project documentation and for entry into the Project Records System;

6. checking materials delivered to the project to ascertain that they are DOH approved and delivered with the appropriate shipping documents, confirming laboratory number, performing routine material field sampling and testing as required, and shipping any required samples to the District Materials Supervisor or MCS&T Division laboratories for materials verification;

7. preparing or checking progress reports including physical progress and percent of total work completed;

8. maintaining accurate project records; and

9. performing other duties as assigned by the Project Engineer/Supervisor.

101.3.5 Project Inspector Trainee

The Project Inspector Trainee performs assigned inspection tasks in training preparatory to assuming the duties of a Project Inspector. Assignments follow a plan of on-the-job training, the primary purpose of which is to provide experienced Project Inspectors for future construction projects. The work typically includes measuring, testing, and checking materials and installations to ensure conformance by the Contractor with the plans and specifications. Supervisor control is intensive initially but progressively decreases as knowledge of the work increases. Example responsibilities of the Project Inspector Trainee are:

1. inspecting excavations, drainage structures, road surfaces, and structures to compare the work with plans and specifications, conferring frequently with higher level project Inspectors and/or engineering personnel to interpret details;

2. checking elevations against reference points and performing routine calculations using basic geometric and trigonometric principles;

3. preparing Inspector's Daily Reports Form 442-IDR and Attachments for project documentation (e.g., details of the Contractor's work activities including work location, materials, equipment in use, and labor forces) and assisting in the preparation of the data for the Project Records System;

4. becoming familiar with the contract plans and specifications and other related documents (e.g., **Standard Specifications**, **Materials Procedures, Standard Details**, **Erosion & Sediment Control Manual**) when not occupied with regular assignments or as directed by higher level project Inspectors; and

5. advising the Contractor's Project Superintendent/Foremen of necessary actions to conform to the contract plans and specifications.

101.4 PERSONNEL TRAINING AND CERTIFICATION

101.4.1 DOH Technician Training/ Certification

The DOH certifies Project Inspectors and other technicians through an examination process administered under the auspices of the

Employee Development Section of the Human Resources Division. Training for a variety of inspection policies and procedures are offered to employees of the DOH. Certification can be obtained only through this process. Contact the Human Resources Division for additional information.

101.4.2 DOH Materials Sampling/Testing

In accordance with the DOH Quality Control/Quality Assurance Program and FHWA requirements that persons performing materials sampling or testing activities for the DOH of the Contractor be certified under the Division's testing program, the Joint Industry-DOH Certification Board administers written examinations and/or performance tests to certify that technicians and inspectors employed by either the DOH or Contractor are competent in the materials sampling and testing fields for which they apply. The DOH Certification Program covers seven technical areas: Aggregate Inspector, Aggregate Sampling Inspector, Portland Cement Concrete Inspector, Portland Cement Concrete Technician, Hot-Mix Asphalt Inspector, Hot-Mix Asphalt Technician, and Compaction Inspector. Upon passing the examination, the Board issues a letter and certificate. Certification remains in effect for a period as regulated by the Board. The Contractor is responsible for providing the certified personnel necessary for administering the Contractor's Quality Control Plan during the project. Contact the Human Resources Division to verify whether an individual is certified. See Division 700 for additional information on the DOH Materials Sampling/Testing Certification.

101.5 EQUIPMENT AND VEHICLES

The following sections provide information on the use of State-owned equipment by DOH personnel.

101.5.1 Engineering & Materials Equipment

Engineering instruments and laboratory equipment are delicate precision tools. Reliable results can only be obtained if these tools are used properly, and improper handling can result in damage and costly repairs. The Materials Control, Soils and Testing Division will furnish materials sampling and testing equipment for field and laboratory work.

101.5.2 Vehicular Equipment

101.5.2.1 Motor Pool

Vehicles needed for District projects may be obtained from the Equipment Division upon request of the District Construction Engineer. These vehicles are State-owned and can only be assigned and operated for conducting official DOH business. Upon assignment, the DOH employee is responsible for the proper operation and maintenance of the vehicle and for the preparation and submittal of any related paperwork (e.g., vehicular crash reports).

101.5.2.2 Servicing and Operation

The Project Engineer/Supervisor is responsible for all State-owned vehicles assigned to the project and must assure the District Construction Engineer that they are being maintained and operated safely. Do not allow DOH personnel to operate vehicles that have a known or suspected deficiency. The vehicle operator is responsible for knowing the daily condition of the vehicle and reporting any needed servicing or repairs to the Project Engineer/Supervisor. The Project Engineer/Supervisor is responsible for contacting the District Equipment Superintendent to arrange for vehicle servicing and repairs. This also includes the inspection and servicing required for normal preventative maintenance.

101.5.2.3 State-Owned Vehicle Crashes

If a crash involving a State-owned vehicle occurs, the vehicle operator will immediately notify the State or local police to investigate the crash at the scene, document the incident on the proper forms contained in the State-owned vehicle, and report the incident to the Project Engineer/Supervisor. The Project Engineer/ Supervisor will notify the District Construction Engineer, District Safety Officer, and District Equipment Superintendent. The District Equipment Superintendent will notify the Equipment Division within 48 hours of the incident to initiate vehicle damage estimation and claims processing. The Project Engineer/ Supervisor will review the crash report with the vehicle operator and forward the report to the District Safety Officer. The District Safety Officer will review the report and, in the case of damage in excess of $1,000 and the DOH driver being at fault, present the vehicle operator's case at the District Equipment Review Board's next regular monthly meeting. The Board will either recommend dropping the case or require the vehicle operator and any witnesses to appear before the Board at its next regular meeting. After hearing the case, the Board will prepare and forward to the District Construction Engineer a written recommendation. Based on the Board's recommendations, the District Construction Engineer will determine what, if any, disciplinary action needs to be taken.

101.6 CONTRACT SPECIFICATIONS

101.6.1 Order of Precedence

The term "specifications" is a general term that applies to all directions, provisions, and requirements pertaining to performance of the work by the Contractor. The **Standard Specifications** is a DOH document that provides those specifications for use in DOH construction contracts. The **Supplemental Specifications** is a DOH document containing additions and revisions to the **Standard Specifications** approved by DOH subsequent to the publication of the **Standard Specifications**. A Special Provision is an addition and/or revision to the **Supplemental Specifications** or **Standard Specifications** covering conditions that are peculiar to an individual project and are included in the proposal as needed on a project-by-project basis. The **Standard Specifications**, **Supplemental Specifications**, Special Provisions, plans, and all supplementary documents are essential parts of the Contract and requirements occurring in one are as binding as though occurring in all. These documents are intended to be complementary and provide for a complete work. Use the following order of precedence to resolve any discrepancies:

1. calculated dimensions will govern over scaled dimensions;

2. **Supplemental Specifications** will govern over **Standard Specifications**,

3. plans will govern over **Supplemental Specifications** and **Standard Specifications**; and

4. Special Provisions will govern over plans, **Supplemental Specifications** and **Standard Specifications**;

101.6.2 Context of Responsibilities

The contract specifications will refer to specific parties and individuals. It is important to note the distinction between these references to ascertain the context of responsibilities while administering the Contract. Use the following guidelines:

1. Engineer. The Engineer refers to the DOH State Highway Engineer, or authorized representative, limited by the scope of duties assigned.

2. Contractor. The Contractor is the individual, firm or corporation, party of the second part to the Contract, acting directly through their agents, Employees, or Subcontractors.

3. Subcontractor. A Subcontractor is an individual, firm, or corporation to whom the Contractor sublets part of the Contract.

4. Employee. An Employee is any person working on behalf of the project who is under the direction of the Contractor or any Subcontractor.

101.6.3 Availability

The **Standard Specifications**, **Supplemental Specifications**, and various other construction related publications will be provided to contractors, subcontractors and suppliers by the Contract Administration Division. Annual issues of the **Supplemental Specifications** will be published each January 1, or as otherwise determined by the Committee. A new edition of the **Standard Specifications** will be published every four years, or as otherwise determined by the Committee. These documents will also be provided to DOH employees in Districts and Central Office by the Engineer Division's Specification Engineer. The DOH makes available the **Standard Specifications for Construction** on the WVDOT – DOH Internet Web Site.

101.7 MATERIALS PROCEDURES (MPs)

DOH MPs typically are referenced by the contract specifications and are maintained by the Materials Control, Soils and Testing Division. MPs define standard methods and guidelines for inspecting, sampling, testing, evaluating, and documenting activities relative to the quality assurance program for materials, products, and processes. Each Material Procedure is identified by the letters "MP" followed by seven numeric digits (i.e., MP XXX.XX.XX). The **Materials Procedures** may be obtained from the Materials Control, Soils and Testing Division, the District Materials Supervisor, or the WVDOT-DOH Internet Web Site.

Section 102

BIDDING REQUIREMENTS AND CONDITIONS

Section 102 of the **Standard Specifications** presents the requirements under which a prospective bidder may bid on an advertised construction contract.

102.1 CONTRACTOR PREQUALIFICATION

102.1.1 Prequalification Process

The DOH requires that all bidders on construction projects let to contract be prequalified. A bidder is an individual, firm, or corporation. The Prequalification and Accounting Unit in the Contract Administration Division is responsible for administering the prequalification process. Once prequalification is granted, the Commissioner will issue a Certificate of Qualification establishing the amount of work for which the Contractor is qualified. To obtain a Certificate, the Contractor must file with the Contract Administration Division a Contractor Prequalification Statement (Form 421) at least 15 calendar days prior to the date for receiving bids. No Contractor will be issued a Certificate of Qualification until the DOH has verified the adequacy of the information provided in the Contractor Prequalification Statement. Annual renewals are required, and no Certificate will be valid for more than 16 months after the date of the Contractor Prequalification Statement.

102.1.2 Contractor Prequalification Statement

With the Contractor Prequalification Statement (Form 421), a Contractor will furnish information on its experience, personnel, equipment, and financial condition. The application package provides information on prequalification regulations and instructions for preparing the Statement. The types of work for which a Contractor may apply (e.g., General Construction, Bituminous Paving, Landscaping, Signing) are categorized from Category A to Category W. Contractors seeking prequalification for Category W – Miscellaneous Projects Less Than $200,000 need only complete the following sections of the Contractor Prequalification Statement:

1. Construction Equipment. Complete Sections 13 and 13a – Construction Equipment on pp. 15 through 17 of the Contractor Prequalification Statement. The last two columns of Section 13 need not be completed.

2. Experience Questionnaire. Complete pp. 27 through 30 of the Experience Questionnaire. Include answers to Questions 1 through 15. Complete the appropriate section of p. 31 depending on whether the applicant is a corporation or co-partnership.

3. Affidavit. Complete the appropriate Affidavit on either p. 32 – Individual or p. 33 – Corporation. The Affidavit must be properly executed and notarized.

If the Contractor is only seeking prequalification for Category W, financial information will not be required, and the Prequalification Rating Formula will not be applied. Contractors prequalified only for Category W will be issued a Certificate of Qualification limited to projects less than $200,000. Contractors submitting applications for other categories must furnish an audited Contractor Prequalification Statement in accordance with the instructions in the application package. As necessary, the Contract Administration Division may request additional

information before a Certificate of Qualification is issued.

102.2 PROJECT ADVERTISEMENT

102.2.1 Notice to Contractor

The DOH advertises construction contracts by publishing a Notice to Contractors (a.k.a., Instructions to Bidders) in local newspapers and the WVDOT – DOH Internet Web Site. The Notice will contain necessary information relevant to the overall location, general scope, and type of project. DOH may exclude projects of a special nature from prequalification requirements.

102.2.2 Proposal Form

Proposal forms issued by the DOH include:

1. the location and description of the proposed work;
2. date, time, and location of the bid opening;
3. the approximate estimate of the work quantities and materials;
4. the Proposal Guaranty Bond Form to be executed by the bidder as guarantee that it will enter into the Contract should its bid be accepted;
5. the number of working days or date on which the work is to be completed;
6. any special bond or insurance requirements;
7. any Special Provisions;
8. State and Federal wage rates; and
9. Plan sheets or PL sheets.

The Proposal Form will be identified by a Call Number corresponding to the Call Number referenced in the Notice to Contractors. A separate set of plans (if applicable), **Standard Specifications**, and other documents referenced in the Proposal Form are considered a part of the Contract. A prospective bidder must purchase these documents from the DOH Contract Unit of the Contract Administration Division. The Proposal and Plans Order Form may be downloaded from the WVDOT – DOH Internet Web Site or faxed to the bidder upon request. The Finance Division will invoice the Contractor for the Proposal Form and Plans after the bid opening date.

102.2.3 Issuance of Proposal Form

Proposal Forms will be issued to a Contractor only if it is either prequalified or has filed for prequalification in the applicable work category 15 calendar days prior to the date of letting. No Proposal Form will be issued after 3:00 PM on the day prior to the letting date. A Proposal Form will not be issued to a Contractor for any project with an estimated cost exceeding the Contractor's prequalification rating. However, DOH may issue a Proposal Form in excess of the Contractor's rating if the prospective bidder furnishes a letter from a surety company willing to bond the project. This will apply only to the specified project and will not be a basis for increasing the amount on the Contractor's Certificate of Qualification. Contractors who have been debarred from bidding on Federal-Aid Projects will not be permitted to bid on Federal-Aid or non-Federal-Aid Projects in West Virginia even if prequalified. Before issuance, DOH will mark the name of the prequalified bidder on the Proposal Form. The Form is non-transferable. Proposal Forms issued for informational purposes, available to all interested parties and will be marked "Not Valid for Bidding Purposes" by the Contract Unit.

102.3 PRE-BID ACTIVITIES

102.3.1 Distribution of Addendums

Any revisions made to the Proposal Form or Plans prior to the bid will be distributed prior to bidding by Addendum to the prospective bidders named in the List of Plan Holders.

102.3.2 Field Review

The quantities in the Proposal Forms and Plans are approximate. Before bidding, the Contractor is responsible for checking the work and material quantities to determine if they are sufficient to complete the project. If additional information is needed (e.g., old plans or shop drawings, geotechnical information, environmental documents, permits, asbestos reports, hazardous waste reports), prospective bidders may review these files at the DOH Central Office. DOH will stake and mark the proposed work and make available DOH personnel (e.g., Project Engineer/Supervisor, Project Inspector) to identify important features of the project. The District Construction Engineer will make these arrangements. Where it is not practical to satisfactorily mark the survey line, DOH will mark the centerline using tall stakes or flags at 300 ft (90 m) to 500 ft (150 m) intervals. DOH personnel responsible for assisting the bidder in the field must be careful not to commit the DOH to anything not included in contract documents (e.g., Proposal Form, Plans, **Standard Specifications**, Special Provisions, soil surveys, foundation data) and avoid misrepresenting contractual and technical information. After the field review, document both the prospective bidder's questions and the answers provided, and forward the Pre-Bid Field Review Report to the Construction Engineer.

102.3.3 Pre-Bid Conference

A Pre-Bid Conference is called by the DOH to assure that prospective bidders are fully informed of the scope of work for determining unit bid prices. The Conference will be held following advertisement and prior to letting. Attendees will include prospective bidders, DOH personnel, design consultants, utility companies, and other affected parties. DOH will make available the Proposal Form and the Plans (i.e., both right-of-way and construction). If the Pre-Bid Conference is mandatory, then any Contractor not represented there will not have its bid accepted.

102.3.3.1 Purpose

The Pre-Bid Conference provides prospective bidders with the best available information on which to base their bids by:

1. discussing and interpreting the intent of the Proposal Form and Plans;

2. providing information on any unusual design or construction procedures, maintenance of traffic requirements, and utility adjustments; and

3. coordinating possible conflicting construction operations (e.g., utilities).

Suggestions from prospective bidders and other affected parties on potential modifications that would reduce costs or avoid delays also will be considered by DOH at the Pre-Bid Conference.

102.3.3.2 Determination of Need

The need for a Pre-Bid Conference will be determined by the Deputy State Highway Engineer – Development or the Deputy State Highway Engineer – Operations. The impetus may be based on recommendations from the Division in primary charge of the project (e.g., Contract Administration Division, Engineering Division, Traffic Engineering Division). In general, Pre-Bid Conferences will be conducted for projects that:

1. incorporate unique design features, complex construction procedures, or new technologies;

2. entail fulfilling DOH commitments on significant issues which need to be emphasized for prospective bidders (e.g., those affecting Federal, State, and local government agencies and/or private industries; environmental issues);

3. are complex with regard to interim completion date provisions, utilities coordination, and/or coordination with other contractors working in the same area; or

4. may require the commitment of extraordinary labor, material, and/or equipment resources to complete the work within the allotted Contract time (e.g., triple shifts, multiple equipment spreads, non-traditional work during winter months).

102.3.3.3 Arrangement and Scheduling

The Deputy State Highway Engineer – Development, based upon the recommendation of the Director of the Division in primary charge of the project, will notify the Contract Administration Division of the date, time, and type (i.e., mandatory or discretionary) of the Pre-Bid Conference. The Conference will be scheduled approximately three weeks prior to the letting date. The Contract Administration Division will arrange conference room facilities and notify the prospective bidders of the Conference through the Notice to Contractors advertisement. The Division Director in primary charge of the project will contact the Conference attendees and review the agenda with the District Construction Engineer.

102.3.3.4 Attendees

The Division Director in primary charge of the project will determine who should attend the Conference, which may include representatives from the:

1. Central Office including:

   a. Regional Construction Engineer, Contract Administration Division;

   b. EEO Specialist, External Contract Compliance Section, Contract Administration Division;

   c. Traffic Engineer, Traffic Engineering Division;

   d. Project Design Engineer, Engineering Division;

   e. Utilities Supervisor, Technical Services Section, Engineering Division;

   f. State Specifications Engineer, Technical Services Section, Engineering Division; and

   g. Project Right-of-Way Agent, Right-of-Way Division.

2. District Office including:

   a. Right-of-Way Agent;
   b. Construction Engineer;
   c. Project Engineer/Supervisor; and
   d. Utilities Supervisor.

3. prospective bidders;

4. FHWA, if involved in the project;

5. affected railroad and utility companies;

6. the consulting engineering firm; and

7. other concerned Federal, State, and local agencies.

102.3.3.5 Facilitation

The Division Director in primary charge of the project will Chair the Conference and ensure that the minutes are accurately recorded. The Chair will announce the meeting agenda and ask the attendees to identify themselves verbally and sign a roster documenting attendance at the Conference. Agenda issues will be discussed and resolved. Suggestions to avert possible right-of-way and utility conflicts cannot be authorized during the Conference. The Right-of-Way and Utility Statement in the Proposal Form establishes the status of this work. However, another meeting may be held (e.g., Pre-Construction Conference) to resolve such conflicts after contract award. The Conference Chair will forward a copy of the minutes to the Contract Administration Division. The Division will distribute the minutes to all prospective bidders and FHWA, if applicable, at least two weeks prior to the scheduled letting date.

102.4 BID PREPARATION AND ACCEPTANCE

102.4.1 Bid Preparation Requirements

Each bidder must use the DOH Proposal Form and supplied envelope to submit its bid. In lieu of using the Schedule of Item Sheets in the Form, the bidder may submit EBS Schedule of Item Sheets with the Proposal. See Section 102.4.2 for additional information. Alterations to the Proposal Form, or any other action as specified in the **Standard Specifications**, will render the bid irregular, and the bid will be rejected. A Proposal Guaranty Bond, in the form of a certified or cashier's check, or bid bond, payable to the DOH in the amount specified in the Proposal Form, must accompany the bid. Bid bonds only will be accepted if executed on the official DOH form.

102.4.2 Expedite BID Software (EBS)

102.4.2.1 Authorization

All prospective bidders must request permission to submit electronic bids via EBS. This request must include the bidder's company name, FEI number, mailing address, e-mail address, phone number, and the names and signatures of the company representative authorized to sign the computerized bid. The Expedite BID application software instructions may be downloaded from the WVDOT – DOH Internet Web Site. Alternatively, DOH will provide upon request a diskette with EBS pre-installed with the Bidder ID and Prequalified Company Name. Separate requests must be submitted for joint bids or joint ventures, if the bidder's company name has changed, or if bid under a different company name. For additional information, contact the Contract Unit, Administrative Section of the Contract Administration Division.

102.4.2.2 EBS Schedule of Item Sheets

Pre-formatted EBS Schedule of Item Sheets are available for downloading from the WVDOT – DOH Internet Web Site. The Sheets must be printed on paper of a quality equal to that in the DOH Proposal Form. Each page will have a "check" value, automatically generated by EBS, at the bottom of the page. Each page must be submitted with the same "check" value. DOH uses this value during bid analysis to verify that the EBS Bid Diskette (see Section 102.4.2.3) contains the same data as the Proposal Form. If discrepancies are found between the Proposal Form and the EBS Schedule of Item Sheets, the unit bid prices of the submitted Proposal Form will govern. In addition to the signatures required on the Proposal Form, the bidder also must sign the EBS Signature Sheet. The bidder will substitute the executed EBS Schedule of Item Sheets and EBS Signature Sheet for those originally accompanying the Proposal Form.

102.4.2.3 EBS Bid Diskette

If the bidder elects to incorporate the EBS Schedule of Item Sheets with the submitted Proposal, a copy of the EBS Bid Diskette with the bid must be included in the bid envelope forwarded to DOH. For each Proposal, a separate and corresponding EBS Bid Diskette must be included. All diskettes become the property of DOH. The bidder must label the EBS Bid Diskette with the bidder's company name and FEI number, the letting date, and the Call Number corresponding to the Notice to Contractors.

102.4.3 Receipt of Bids

A bidder must submit its bid in the envelope provided with the Proposal Form either by mail or hand delivery. The Proposal Form will provide the bidder with specific delivery instructions. Contractors will deposit their sealed bid in the official bid box in the Central Office (i.e., Internal Bid Box). A representative of the bidder also may deposit the sealed bid in an official bid box located outside the DOH Central Office building (i.e., External Bid Box). The location of the External Bid Box will be specified in the Notice to Contractors. The Contract Administration Division will place the External Bid Box between 9:00 AM and 10:00 AM on the day of the letting. At 10:00 AM, the Contract Administration Division will carry both Internal and External Bid Boxes to the location specified for the bid opening. Contract Administration Division personnel will remove the bids from both Bid Boxes. Each Bid Box has two locks. The DOH Business Manager retains a key to one lock and the Contract Administration Division holds the key to the other lock. Bids received after 10:00 AM on the day of the letting will be returned to the bidder unopened. The bidder may withdraw the bid prior to opening provided the request is made in writing on the DOH form available at all lettings.

102.4.4 Bid Posting Schedule

DOH will post bid results on the WVDOT – DOH Internet Web Site according to the following schedule:

1. Advertisements. The listing of advertised contracts including bid items and quantities is updated by 9:00 AM on the first workday following the advertisement.

2. EBS. EBS file transfer capability is updated by 9:00 A.M. on the second workday following the advertisement.

3. Plan Holders. The List of Plan Holders is updated on Wednesday and Friday by 9:00 AM and after 3:00 PM on the last workday before the letting date.

4. Bid Results. Bid results are uploaded by 2:00 PM on the letting date.

5. Bid Tabulations. Bid tabulations are uploaded by 9:00 AM on the first workday following contract award.

Section 103

AWARD AND EXECUTION OF CONTRACT

103.1 GENERAL

Upon receiving bids, DOH must follow certain procedures to evaluate bids and award and execute the Contract. Figure 103A illustrates the general process. See Section 103 of the **Standard Specifications** and the **Contract Award Manual** for additional information.

103.2 LETTING, AWARD, AND EXECUTION

103.2.1 Bid Opening

At the bid opening, representatives from the Contract Unit of the Contract Administration Division will open all bids on contracts in the order they are listed on the Notice to Contractors and read publicly each Contractor's name and total bid amount. Subsequently, the Contract Unit will:

1. review the bids for proper execution and compliance with DOH bidding requirements;

2. request submission of a DBE usage plan for review;

3. check bid quantities, unit prices, and extensions;

4. calculate the percentage each bid is above or below the Engineer's Estimate; and

5. prepare a tabulation of the three lowest bids.

If discrepancies are found in extensions, unit bid prices will govern. DOH will reject the bid if the bidder submits more than one bid for the same work under either the same or different name representing the same individual, firm, or corporation. Participants in collusion also will be disqualified from future bidding for a period as determined by DOH. The Contract Unit will make immediately available to the public the results of bid evaluations and comparisons. The DOH Business Manager will retain the Proposal Guaranty of all bidders until the award to the successful bidder and its submission of a Performance Bond, where upon they are returned.

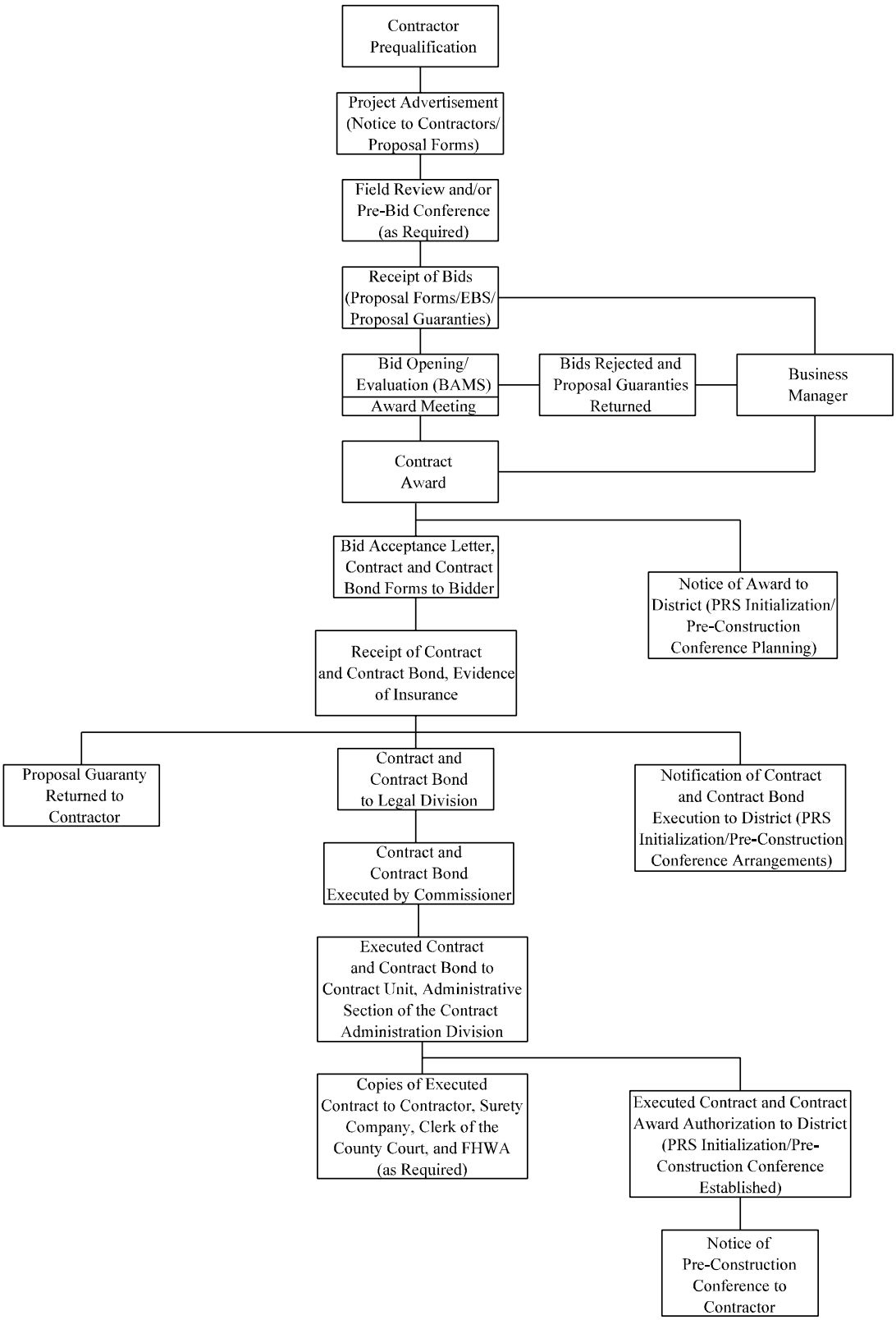
103.2.2 Award Meeting

After the bid opening, the Contract Unit will schedule an award meeting to further evaluate all bids. Representatives of the State Highway Engineer, affected DOH Divisions, and the FHWA, if applicable, will attend the meeting to discuss any outstanding issues and evaluate the bids in accordance with 23 CFR 635.114; Guidelines on Preparing Engineer's Estimate, Bid Reviews and Evaluation, January 04, 2004. The award meeting will conclude with a recommendation to reject all bids, hold the bids for further study, or award the Contract. DOH must award the Contract within 30 days of the bid opening; however, the Commissioner may withhold, with the written agreement of the successful bidder, the award if this is in the best interest of the State. DOH reserves the right to reject any or all bids and to cancel the award without liability to the State.

Within 10 days following an award of the Contract, the Business Manager will return the Proposal Guaranty of the second lowest bidder.

103.2.3 Notice of Award

After the award meeting, assuming a recommendation is made to award the Contract, the



CONTRACT AWARD AND EXECUTION PROCESS
Figure 103A

Contract Unit will use BAMS to generate the Bid Acceptance Letter and Notice of Award. The Contract Unit will forward to the successful bidder the Bid Acceptance Letter and the forms necessary for proper execution of the Contract and Contract Bond. The Bid Acceptance Letter is the official notification of DOH acceptance of the bid. The Contract Unit, through the Director of the Contract Administration Division, will forward the Notice of Award to the District Engineer. The Notice of Award provides the District with advance notice to begin staffing the project (e.g., Project Engineer/Supervisor, Project Inspectors), initializing PRS for project administration, and preparing for the Pre-Construction Conference (see Section 103.3.2).

103.2.4 Execution by Contractor

Within 20 days from receipt of the Bid Acceptance Letter and forms for executing the Contract and Contract Bond, the successful bidder will return the following to the Contract Administration Division:

1. Contract. The company principals will properly execute. and return all Contract documents to the Contract Administration Division for execution.

2. Contract Bond. The successful bidder's principal and surety company together with its West Virginia resident agent will properly execute a Contract Bond payable to the DOH for 100% of the Contract price. DOH will accept alternative forms of a performance guaranty in accordance with the **Standard Specifications**. Upon receipt of a properly executed Contract Bond, the Business Manager will return the Proposal Guaranty of the successful bidder.

3. Evidence of Insurance. The successful bidder will procure and maintain during the life of the Contract all insurance policies required in the Proposal Form (e.g., liability and property damage, automobile, steam boiler). As evidence, the successful bidder will return to the Contract Administration Division the respective Certificates of Insurance. See Section 103.4 for insurance requirements.

Failure of the successful bidder to properly execute the Contract and Contract Bond within the 20-day period will be cause for annulment of the award and forfeiture of the Proposal Guaranty to DOH as liquidated damages. DOH may then award to the next lowest bidder or re-advertise.

103.2.5 Execution by DOH

Upon receipt of a properly executed Contract from the successful bidder, the Contract Unit will forward to the District Engineer a Notification of Contract and Contract Bond Execution. The Contract Unit will forward all Contract documents through the Legal Division for execution by the Commissioner. Upon Contract execution, a Contract Award Authorization will be generated. The Authorization is the official document authorizing construction of the project. The Contract Unit will forward one copy of the Contract Award Authorization to the District Engineer, who will forward the Authorization to the Project Engineer/ Supervisor, through the District Construction Engineer, to initialize PRS for contract administration. The total dollar amount of the Contract Award Authorization is the bid price of the Contract plus engineering costs and contingencies, which will cover variations in construction quantities permitted by contract specifications that could cause payments to exceed the specified bid price.

103.2.6 Distribution of Executed Contract

The executed Contract will accompany all original project documents and certificates. The DOH Central Office will process the executed Contract and forward the original to the District Office.

The executed Contract and Award Authorization are the Project Engineer/Supervisor's primary source of information for initializing PRS to administer the Contract. The Contractor cannot begin work until the Project Engineer/ Supervisor has initialized PRS to generate the Notice to Proceed.

103.3 PRE-CONSTRUCTION ACTIVITIES

103.3.1 Distribution of Plans and Plan Revisions

Following the bid opening, DOH generally will have sent several sets of Plans (as documented in the Notice of Award) to the successful bidder for use by the Contractor, Subcontractors, and material suppliers. The following guidelines discern the responsibilities for distributing additional Plan sets to the Contractor:

1. Before Notice to Proceed. If the Contractor needs additional Plans after the Contract is awarded but before construction begins, the Contractor must forward a written request to DOH. These requests will be forwarded to the Contract Unit for action. The Unit will fulfill the Contractor's request and send the Project Engineer/Supervisor, through the District Construction Engineer, a copy of the Contractor's letter with notification of what action was taken. If Plan revisions occur before the Project Engineer/ Supervisor issues the Contractor a Notice to Proceed, the Contract Unit sends the Contractor the proper number of revised sheets and notifies the District.

2. After Notice to Proceed. During construction, Plan revisions may occur, and it is essential to update each official Plan set issued to the Contractor. After the Construction Engineer issues the Contractor a Notice to Proceed, the District Construction Engineer is responsible for ensuring that the Contractor receives the proper number of reduced and full-size revised Plan sheets. The District Construction Engineer will contact the Regional Construction Engineer in the Central Office to obtain the revised Plan sheets and forward them to the Contractor.

103.3.2 Pre-Construction Conference

The DOH requires that a Pre-Construction Conference be held for all State and Federal-aid projects. However, the Contract Administration Division may waive this requirement for those routine improvement projects that can be initiated with a meeting smaller in scope.

The Pre-Construction Conference is called by DOH to discuss any real or anticipated construction issues and to assure that the affected parties are fully informed of key aspects of the project. The Conference will be held after Contract award and prior to construction. Attendees will include representatives from DOH, the Contractor, and other affected parties. DOH will provide a complete set of Plans (i.e., right-of-way, construction, detours and maintenance of traffic). The District Office will provide any additional information for the Conference.

103.3.2.1 Purpose

The Pre-Construction Conference will:

1. plan for the DOH administration and inspection of contract items;

2. discuss the scope and resolution of any real or anticipated construction problems;

3. clarify the Contractor's understanding of project features and details;

4. discuss the nature and status of agreements (e.g., utilities, property owners) and how they affect construction operations;

5. schedule an effective sequence of operations for construction;

6. coordinate the activity schedules of other agencies involved in the project; and

7. introduce DOH personnel (e.g., Project Engineer/Supervisor, Project Inspectors) assigned to the project.

103.3.2.2 Arrangement and Scheduling

After receiving the Notice of Award from the Contract Administration Division, the District Construction Engineer will coordinate with the Project Engineer/Supervisor, Contract Administration Division, and the Contractor to arrange a suitable date for the Pre-Construction Conference. If utility coordination is significant, a preliminary meeting to resolve the major utility issues should be held before the Conference. As needed, the District Construction Engineer will schedule such a meeting with the affected utility companies, District Construction Engineer, District Utilities Supervisor, Project Engineer/Supervisor, Railroad/Utilities Unit of the Engineering Division, and the Contract Administration Division. See Section 105.2 for additional information on utilities. The District Construction Engineer will initialize PRS to generate the Notice of Pre-Construction Conference (see Section 105.6.4) and forward the Notice to the Contractor. All attendees should be notified as far in advance of the scheduled Conference date as practical. The Project Engineer/Supervisor will transmit a letter containing the date, time, and location of the Conference to the Contract Administration Division and forward copies of the letter to:

1. District Engineer;

2. District Construction Engineer;

3. Director, Contract Administration Division;

4. Director, Materials Control, Soil and Testing Division;

5. Director, Traffic Engineering Division;

6. Director, Engineering Division;

7. Director, Right-of-Way Division;

8. appropriate FHWA representatives; and

9. as needed, key representatives of other Federal, State, and local agencies and private concerns.

103.3.2.3 Attendees

In general, key representatives of the parties directly involved in any construction phase should attend the Pre-Construction Conference. The District Construction Engineer will approve the final list of attendees, which may include:

1. DOH personnel from the Central Office including:

   a. Regional Construction Engineer, Contract Administration Division;

   b. Division Representative, Materials Control, Soils, and Testing Division;

   c. Traffic Engineer, Traffic Engineering Division;

   d. Project Design Engineer, Engineering Division;

   e. Environmental Engineer, Engineering Division;

   f. Utilities Supervisor, Engineering Division;

   g. State Specifications Engineer, Engineering Division;

   h. Project Right-of-Way Agent, Right-of-Way Division; and

   i. Safety Officer, Enforcement Division;

2. DOH personnel from the District Office including:
    a. Construction Engineer;
    b. Right-of-Way Agent;
    c. Encroachment/Hauling Permits Supervisor;
    d. Design Engineer;
    e. Bridge Engineer;
    f. Traffic Engineer;
    g. Materials Supervisor;
    h. Construction Office Manager;
    i. Safety Officer;
    j. Utility Supervisor;
    k. Area Engineer/Supervisor;
    l. Project Engineer/Supervisor;
    m. Project Inspectors; and
    n. secretary to record minutes.
3. Contractor's management representative (e.g., Owner, Vice President);
4. Contractor's Project Superintendent;
5. appropriate FHWA representatives;
6. representatives from affected utility and railroad companies;
7. representatives from the consulting engineer firm; and
8. representatives from other concerned Federal, State, and local agencies including:
    a. US Coast Guard;
    b. US Army Corps of Engineers;
    c. US Forest Service;
    d. WV Department of Natural Resources;
    e. WV Department of Environmental Protection;
    f. Public Lands Corporation; and
    g. Municipalities.

103.3.2.4 Facilitation

The District Construction Engineer will Chair the Conference and ensure that the minutes are accurately recorded. The Chair will announce the meeting agenda and ask each attendee to state their name and organization. Each attendee will sign the Conference Attendance Sheet. Name cards will facilitate communication and will be an asset when recording minutes. When facilitating the Conference, consider the following key topics, roles, and responsibilities:

1. Right-of-Way. The District Right-of-Way Agent will discuss the status of the project right-of-way.
2. Railroads/Utilities. The District Utilities Supervisor will discuss how the project will affect railroad and/or utility facilities. Representatives from affected companies should be queried as to how needed relocations and adjustments will affect construction progress.
3. EEO/Labor Compliance. Before the Conference, the External Contract Compliance Section will forward to the District Construction Engineer an informational packet outlining EEO and labor compliance regulations for Federal-aid projects. The District Construction Engineer will discuss the Contractor's responsibilities for com-

pliance (e.g., notices to be posted, subcontracting requirements). Ensure that the Contractor has the **Labor Compliance Guidelines**, and instruct the Contractor to thoroughly examine and comply with these regulations.

4. On-the-Job Training. If OJT is specified in the Contract, DOH requires the Contractor to submit a Training Proposal designating the number of trainees and a Training Program for each selected work classification. The Regional Construction Engineer may verbally approve the Training Proposal at the Conference if the Contractor uses Training Programs already approved by the Secretary of Labor. After the Conference, the Contract Administration Division will send the Contractor, and copy the District Construction Engineer, a letter corrob-orating such an approval. However, if the Contractor proposes to develop its own Training Programs, the DOH and FHWA must first approve the Training Programs before they are used on the project. The Regional Construction Engineer will emphasize that it is the Contractor's responsibility to identify work classifications of trainees on payrolls submitted to the Project Engineer/ Supervisor. See Section 107.3.2 for additional information.

5. Materials Control. Desirably, the Contractor will submit the Proposed Source of Materials (Form 454) to the District Materials Supervisor before the Pre-Construction Conference; otherwise, the Contractor must submit it at the Conference. See Section 702.2 for additional information. The District Materials Supervisor will discuss materials control issues and answer related questions posed by attendees. During the Conference, emphasize to the Contractor the need to have all material approved by the DOH prior to use.

6. Project Safety. The District Safety Supervisor will discuss the safety policies and procedures in the Contract and emphasize the importance of project safety.

7. Project Construction. The Project Engineer/ Supervisor is responsible for thoroughly examining the details of the Contract, Plans, **Standard Specifications**, Special Provisions, Agreements, and the Project Site before the Conference. The Project Engineer/Supervisor will discuss the specific phases of project construction, indicate acceptable locations for a Project Field Office (e.g., trailer), and emphasize to the Contractor's Project Superintendent the importance of promptly notifying Project Inspectors of arrival and departure times of all project labor, materials, and equipment. Other issues should be presented and discussed as needed.

8. Control of Work. The District Construction Engineer will discuss topics regarding the control of work including: inspection procedures and requirements for materials and construction quality assurance; quantity measurements and documentation; laboratory numbers; Supervisor's and Inspector's Daily Reports; preparation of estimates for payment; and progress.

9. Other Issues. As needed, other Central Office and/or District Office personnel will discuss topics in their fields of expertise (e.g., drainage, foundations, soils, aggregates, paving, structures, maintenance of traffic).

10. Contractor Submitted Documents. The Contractor will present the following at the Pre-Construction Conference:

    a. three copies of an executed Proposed Source of Materials (Form 454);

    b. any executed Subcontracting Requests (Form 403);

c. a letter to the District Construction Engineer requesting approval of the following key Contractor personnel:

   i. Professional Engineer/Professional Surveyor who will supervise the pay item – Construction Layout Stakes, including West Virginia PE/PS Registration Number, professional registration status in other States, and resume;

   ii. Project Superintendent, including resume;

   iii. names of the representative(s) authorized to sign project documents;

   iv. name and authority of the EEO Officer; and

   v. name of the DBE Liaison Officer designated to administer DBE matters;

d. three copies of the Certificate(s) of Insurance, if processed, or a letter from the insurance agent certifying that the required insurance policies are in effect;

e. method and schedule proposed for mitigating erosion and sedimentation;

f. erosion control plan;

g. On-the-Job Training Proposal and Training Programs;

h. Quality Control Plan detailing the type and frequency of material sampling and testing as governed by the contract specifications; and

i. three copies of the project schedule prepared in accordance with the contract specifications (Unless other-wise requested by the District Construction Engineer, a project schedule will not be required for projects of short duration. Otherwise, the Contractor will provide an ASC schedule or CPM diagram showing how the proposed work will be completed within the time or by the date specified in the Contract. The Contractor will prepare the project schedule in accordance with the requirements of Section 108 of the **Standard Specifications**. See Section 105 for additional information).

11. Minutes of Conference. The District Construction Engineer will ensure that accurate minutes of the Conference are recorded. As early as practical after the Conference, the District Construction Engineer will proof-read the typed minutes and prepare the Pre-Construction Conference Report. The Report is critical, because it may become evidentiary evidence in resolving future claims or disputes. The Report will include a transcript of the minutes and a summary of the agreements, decisions, commitments, and actions required on outstanding issues. The District Construction Engineer will distribute one copy of the Report to the:

    a. Contractor;

    b. District Engineer;

    c. Project Engineer/Supervisor;

    d. Director of the Contract Administration Division;

    e. Director of the Materials Control, Soils and Testing Division; and

    f. as necessary, the representatives of other organizations that attended the Conference.

103.3.3 Pre-Survey of Work Zone

The safe and efficient movement of traffic through a construction area is achieved through careful planning. The District Construction Engineer and the Project Engineer/Supervisor should carefully examine the Contract Plans and Specifications for Maintenance of Traffic (MOT) provisions. On large and complex projects, the MOT Plan typically will show the type and location of all traffic control devices for the various stages of construction including any needed crossovers and detours. If an MOT Plan is not included in the Contract Plans (i.e., for smaller, less complex projects), traffic control will be implemented in accordance with the DOH **Traffic Control for Street and Highway Construction and Maintenance Operations**. As part of this planning process, the District will conduct a preliminary survey of the work zone for all projects on high-speed, high-volume facilities including all Interstates, APD corridor highways, fully controlled access highways, and expressways having a speed limit of 45 mph (70 km/h) or greater. After Contract award but before the Notice to Proceed is sent to the Contractor, the District Construction Engineer will select a team of District personnel and schedule the field review. The review team may:

1. evaluate the overall MOT Plan relative to accommodation and control of traffic during construction;

2. evaluate the structural strength of the existing pavement relative to its ability to carry additional traffic loads;

3. evaluate the conditions of drainage structures within the work zone; and

4. check for any evidence of bridge deterioration.

Based on the findings of the field review, the review team will forward recommendations to the Traffic Engineering Division and Contract Administration Division regarding any desired adjustments to the proposed construction sequence or revisions to the MOT Plan.

103.4 PROJECT INSURANCE

103.4.1 Insurance Requirements

The Contractor is required to have public liability and property damage insurance. Other types of insurance may be necessary for special circumstances or conditions. If a Project Field Office is provided, the Contractor must maintain an insurance policy to protect its contents. Protective Liability Insurance is required on all projects that encroach Turnpike and/or railroad right-of-way. Before the Commissioner executes the Contract and Contract Bond, the Contract Unit will verify that the insurance requirements of the Contract are met (e.g., types, monetary limits) and that a West Virginia Resident Agent has countersigned the appropriate documents (e.g., Certificate(s) of Insurance). At the Pre-Construction Conference, the Contractor will provide the DOH with three copies of the Certificate(s) of Insurance, if processed, or a letter from the Insurance Agent certifying that the required insurance is in effect. The Contract Administration Division will retain one copy in the Central Office Files. The District will retain one copy in the District Office Files, and the Project Engineer/Supervisor will retain one copy in the Project Files. See Section 103 of the **Standard Specifications** for additional information.

103.4.2 Monitoring Insurance Requirements

Typically, an insurance company will issue a policy for a one-year period with a provision for renewal. The Project Engineer/Supervisor will ensure that the Contractor renews all required policies throughout the life of the project. Use the Insurance Monitoring Form (Form 480) to perform this task. These Forms typically are maintained in a notebook in the Insurance Monitoring File within the District Construction Office. For each new project, enter each required

insurance policy on one line of the Insurance Monitoring Form. As appropriate, leave blank lines to accommodate renewal entries. Check the Form monthly to ensure that renewal Certificates are received two weeks prior to their date of expiration. If a renewal Certificate is not received in this timeframe, contact the Contractor by phone and document the telephone contact in a letter to the Contractor. Place one copy of the letter in the Insurance Monitoring File and one copy in the Project File.

Section 104

SCOPE OF WORK

Section 104 of the **Standard Specifications** presents the requirements, conditions, and other incidentals related to the Contract's scope of work (e.g., Contract changes, maintenance of traffic). The following Section presents specific DOH procedures and additional clarifying information.

104.1 CONTRACT CHANGES AND INCIDENTALS

104.1.1 Contract Intent and Partnering

The Contract is intended to provide all necessary instructions and details for project construction. Misunderstandings do arise, and the decision of the Commissioner will be final. However, District and field personnel should make every effort to resolve the issues in the field. The DOH and the Contractor are each party to the Contract and each controls how their respective resources are used to complete the project successfully. Obviously, project success depends on how well these parties work together. Partnering focuses on working together. Its aim is to develop a proactive effort and spirit of trust, respect, and cooperation among all stakeholders. Partnering is a process for developing a spirit of teamwork and cooperation through shared goals, open communications, problem identification and resolution, conflict mitigation procedures, and the monitoring of team performance. DOH favors the informal use of this philosophy in all of its construction projects; however, the DOH and the Contractor may agree on some projects to facilitate a formal partnering process through a Partnering Agreement between the DOH and the Contractor. Partnering roles and responsibilities are established, meeting facilitators are selected, and project workshops are frequently held to continually monitor and identify issues to resolve any potential conflicts.

104.1.2 Changes in Plans, Quantities, and Work

DOH reserves the right to alter the Contract plans, plan quantities, and the character of the work as necessary during the project. DOH may issue a Supplemental Agreement or an LME Force Account Work Order, as appropriate, to permit the Contractor to fulfill the new requirements under the provisions for extra work in the contract specifications. Changes in plans, plan quantities, and contract time due to differing site conditions, authorized suspension of work, or significant changes in the character of the work will be paid in accordance with the contract specifications.

104.1.3 Disposition of Excess Materials

As necessary, DOH may exclude an item of work during the project. DOH will compensate the Contractor the reasonable expenses already incurred for the work and reimburse the actual expenses for materials purchased in good faith for use on the excluded work item. The materials then will become the property of DOH. Note that minor work items are subject to variation without limitation. The Contractor will advise the District Construction Engineer of the excess material eligible for disposition under this provision of the contract specifications. The Contractor also must report the location of the materials used and submit certified invoices disclosing the actual price paid. The District Construction Engineer will arrange payment to the Contractor and contact the Maintenance Division to arrange for moving the materials to the DOH inventory. Until such materials are relocated, the Contractor must store and safeguard them against deterioration, theft, and vandalism.

104.1.4 Value Engineering Proposals

DOH will accept Value Engineering Proposals from the Contractor for changes to the Contract that reduce the total cost of construction without reducing design capacity or quality of the final product. Value Engineering Proposals will be processed according to Section 104 of the **Standard Specifications**.

104.1.5 Incidentals

Several items of work do not have a specific pay item in the Contract but are nonetheless a part of the scope of work. The following items, if applicable, will be incidental to the Contract:

1. Funding Source Identifications Signs. If the Total Contract Bid Amount exceeds $500,000, the Contractor will provide funding source identification signs during project mobilization of the type, size, and location as specified in the **Standard Specifications**.

2. Bridge Plate. On bridge projects, the Contractor will provide without extra compensation a bridge plate as specified in the **Standard Specifications**.

3. Temporary Structures. Unless otherwise stipulated in the Contract or provided for through a Change Order, the Contractor will not be responsible for providing temporary structures for bridge projects.

4. Final Clean Up. Before final acceptance of the project, the Contractor will clear the highway, waste areas, borrow pits, and all occupied grounds in accordance with the **Standard Specifications**.

104.2 MAINTENANCE OF TRAFFIC

104.2.1 General

All DOH construction projects will provide for the safe and efficient maintenance of traffic through the work zone. Large and complex projects typically have a Maintenance of Traffic (MOT) Plan included in the construction plans. Smaller and less complex projects will require the use of sound engineering judgment to provide traffic control in accordance with the DOH **Traffic Control for Street and Highway Construction and Maintenance Operations**. DOH will monitor and inspect construction operations to ensure that the Contractor conforms to these requirements. If the Contract contains Pay Item 636 – Maintaining Traffic, the Contractor will be paid according to the Contract. Suspensions in construction may require the Contractor to remove and later reinstall traffic control devices for maintaining traffic, and any additional cost associated with the suspension will be paid as provided in the Contract.

104.2.2 Contractor Responsibilities

The Contractor will maintain traffic as specified in the Contract to provide for the safe and convenient use by the traveling public. The Contractor's Project Superintendent will designate a representative in charge of these responsibilities. The Contractor must properly erect and adequately maintain the necessary traffic control devices including all advance warning signs, barricades, beacons and signals, channelization, and markings. This includes maintaining the devices in a clean and functional capacity so that, for example, dirt and dust will not hinder reflectivity. The Contractor will perform construction operations to minimize traffic delays and disruptions.

104.2.3 Public Relations

Adequate and timely publicity on traveling conditions can have a beneficial effect on the control of traffic during construction. A motorist who is forewarned of construction conditions will be more tolerant of delay and inconvenience. He will also be more alert and responsive to warning signs and other traffic controls. Flagmen should be instructed as to what to inform the motorist on specific danger areas, approximate length of delay, etc. Official information will be issued only by the designated authority.

104.2.4 Monitoring Traffic Control During Construction

The importance of monitoring traffic control during construction cannot be overemphasized. The Project Engineer/Supervisor must ensure that traffic control is provided in accordance with the Contract plans and specifications. On large projects, this responsibility is usually delegated to other project personnel (e.g., Project Inspectors). Qualified DOH personnel must be used to monitor traffic control operations. This individual must be thoroughly familiar with the DOH **Traffic Control for Street and Highway Construction and Maintenance Operations** and should have previously attended training sessions sponsored by the Traffic Engineering Division. Consider the following guidelines when monitoring traffic control during construction:

1. Routine Checks. Once the traffic control devices are in place, check the devices daily to ensure that they are continually maintained in a clean and acceptable condition and in the location specified in the Maintenance of Traffic Plan and in the DOH **Traffic Control for Street and Highway Construction and Maintenance Operaions**. Report all findings in the Inspector's Daily Report. Bring any deficiencies to the attention of the Contractor for immediate corrective action.

2. Weekend and Nighttime Reviews. On high-volume facilities, consider the need to review the traffic control devices on weekends. Contractor and DOH personnel may not be present on weekends to make any necessary adjustments. Although traffic control devices may appear ideal during daylight operations, they may be inadequate or confusing after dark. Check the adequacy of traffic control devices during nighttime operations immediately after they have been installed and then at least once every two weeks afterward to ensure that they are properly maintained and providing adequate reflectivity. Bring any deficiencies to the attention of the Contractor's emergency response personnel.

3. Advance Warning Signs. Lane shifts, cross-overs, and detours pose unusual conditions when negotiated by motorists because such conditions significantly differ from those through which the motorist has just traveled. If unexpected, these conditions could be potentially hazardous. Therefore, it is important to check that the Contractor provides and maintains adequate advanced warning signs.

4. One-Way Traffic Operations. Short and long duration one-way traffic operations are occasionally needed in construction zones (e.g., where transverse cuts are made for underground utility work, lane closures). Safety precautions are paramount in these situations. Check that the Contractor provides the necessary flagmen, radios, lead trucks, and/or specialized signals to adequately control the one-way traffic operation.

5. Flagmen. If the Contractor furnishes flagmen, DOH will assume no responsibility relative to the flagmen. However, if DOH furnishes flagmen, the associated cost will be part of the engineering and contingency item. Flagmen furnished by the Contractor will not wear vests or caps bearing the DOH symbol.

6. Road Closures/Detours. At locations where an existing roadway facility is being improved, DOH requires the Contractor to take every practical measure to keep the roadway open to the public during construction. However, road closures and detours may be necessary and will be detailed in the MOT Plan. Check that traffic is able to pass through or around the construction area safely and with little inconvenience or delay. On a new facility, DOH generally prohibits public travel on the facility until the roadway is entirely completed.

7. Traffic Flow Interruptions. Occasionally, it may be necessary to completely interrupt the flow of traffic in the construction zone. When this is necessary, plan the work so that it can be completed during periods of little traffic (e.g., off-peak hours, nighttime operations). If a heavy unit of slow-moving equipment must traverse the facility, check that the Contractor moves the equipment to cause little disruption or delay. Do not permit the Contractor to locate, even temporarily, equipment where it will present a fixed-object hazard or otherwise impede the flow of traffic.

8. Device Removal. Contractors sometimes leave warning signs and other traffic control devices on the job after their usefulness has passed. It is generally not prudent to do this, as motorists tend to lose respect for the traffic control devices. Make a special effort to check for this situation and enforce the requirements of the Contract.

9. Crashes. Investigate and document all traffic crashes that occur during working hours within the project limits on the West Virginia Division of Highways Work Zone Traffic Crash Report Form. Most importantly, check the traffic control scheme and devices to determine if they could have contributed to the cause of the crash. If adjustments or improvements are evident, they should be initiated immediately. Report all fatal crashes immediately to the Project Engineer/Supervisor, and notify the District Construction Engineer and FHWA if the crash occurred on the NHS. A Fatal Crash Review Team will investigate all fatal crashes occurring within the project limits. See Section 104.2.5 for additional information.

10. Assistance. If unique problems or circumstances are encountered that require the expertise of a specialist, contact the Traffic Engineering Division for assistance.

104.2.5 Fatal Crash Review Team

104.2.5.1 Team Members

A Fatal Crash Review Team will investigate all fatal traffic crashes that occur within the project limits. The Team will be comprised of the following WVDOH personnel:

1. District Construction (or Maintenance) Engineer (or representative);

2. Project (or Maintenance) Supervisor);

3. Claims Investigator;

4. District Safety Officer;

5. District Traffic Engineer/Technician; and

6. Traffic Engineering Representative.

104.2.5.2 Notification Responsibilities

When a fatal crash occurs within the project limits, notice must be made to the Traffic Engineering Division. It is the responsibility of the District Construction or District Maintenance Engineer to provide notification to the Director of the Traffic Engineering Division, or designee. The Traffic Engineering Division will coordinate the deployment of the Fatal Crash Review Team. When a work zone fatality occurs

on the NHS, the FHWA should be notified and encouraged to participate in the review as their schedule permits.

104.2.5.3 Preliminary Documentation

Documentation of the work zone should be prepared by the Project Engineer/Supervisor (or Maintenance Supervisor) and the District Safety Officer. Preparation should begin as soon as practicable after the police have completed their field investigation and movement of traffic has been restored. Video tape documentation is suggested in addition to a traffic control schematic, if the equipment is available. The Project Engineer/Supervisor is responsible for obtaining a copy of the police report.

104.2.5.4 Review Process

The Team will meet as soon as practicable (preferably within three days) after the fatal crash has occurred. The Team will review the work zone, the field documentation and any modifications made to the Traffic Control Plan. If necessary, the Team will make recommendation for improvements to the existing traffic control. These changes will be reviewed and approved by the Director of Traffic Engineering for potential implementation. Note that the review process does not preclude modification to traffic control between the time the fatal crash occurs and the time that the Team actually conducts its review; however, such changes must be properly approved and documented.

104.2.5.5 Final Report

A representative from the Traffic Engineering Division will compile the Final Report for review by the Director of Traffic Engineering, the Director of the Legal Division, and the Deputy State Highway Engineer – Project Development. The Report will consist of the documentation of the work zone, a summary of the events related to the fatal crash, a copy of the Work Zone Traffic Crash Report Form, a summary of the Team's review activities, and any recommendations to improve the design or implementation process. Copies of the Final Report will be distributed to the District, the Contract Administration Division, the Legal Division, and the Traffic Engineering Division. A copy of the Final Report will also be forwarded to FHWA for all fatal crashes that occur on Federal-aid highways.

Section 105

CONTROL OF WORK

Section 105 of the **Standard Specifications** presents the requirements and conditions related to the control of work (e.g., authorities, responsibilities, conformity, working drawings, inspection, acceptance). The following Section presents specific DOH procedures and additional clarifying information.

105.1 ROLES AND RESPONSIBILITES

105.1.1 DOH Responsibilities

The contract specifications define explicitly the authority of the Project Engineer/Supervisor and the obligations of the Contractor. The Project Engineer/Supervisor is the representative of the District Construction Engineer on the project and has the authority for ensuring the work is performed in accordance with the Contract. The authority of Project Inspectors checking any part of the operation at any time, including sampling and testing any material, also is well defined in the Specifications.

105.1.2 Contractor Responsibilities

The Contractor is obligated to have on the job, at all times, a competent representative (e.g., Project Superintendent, Project Foreman) authorized to receive and act upon instructions given by the Project Engineer/Supervisor. In addition to completing the construction in accordance with the Contract Plans, Specifications, and Special Provisions, the Contractor must locate project elements from control points established by the Project Engineer/Supervisor, perform investigations to determine required lengths of piles and proper depths of foundations, and furnish shop drawings for steel structures and major formwork.

105.1.3 DOH and Contractor Relationship

Good working relations between DOH personnel and Contractor representatives will help to obtain the high-quality work desired. This does not mean, however, that a close personal friendship should be established. The DOH and the Contractor have separate functions, and DOH employees should act in a businesslike manner at all times. The Project Engineer/Supervisor and the Project Inspectors should not allow themselves to become obligated to any Contractor representative in any way. The Contract Administration Division should be furnished with copies of all pertinent correspondence between the Contractor and District Offices, Area Offices, and Project Offices.

Proper observation to DOH and project organization can promote a better relationship with the Contractor. Documents should flow from Contractor to the Project level, District level, then Central Office level and in reverse order unless specific procedures dictate otherwise. The Project Engineer/Supervisor should be readily available to the Contractor or its representative for consultation and coordination of the operations. Good relations will do much to discourage the Contractor from attempting to deal directly with the District Construction Engineer or the Central Office. However, if the Contractor and Project Engineer/Supervisor cannot settle a problem, the Contractor has the recourse to contact the District Construction Engineer.

105.2 UTILITIES

Where utilities are involved, the work should be controlled per the requirements of the Standard

Specifications and the current policies of the Contract Administration Division.

105.3 SCHEDULES AND TIME EXTENSIONS

105.3.1 Project Schedule Requirements

The Contract will specify the time basis for completing the work. The Contractor is responsible for meeting the time requirements of the contract and, in some instances the contractor is required to submit a project schedule. The following criteria apply to project schedule requirements:

1. Projects Without Schedule Requirements
   The DOH does not require schedule information to be submitted for projects on which the major portion of work is resurfacing, landscaping, signing, lighting, traffic control, guardrail, bridge painting, or on projects with a Total Contract Bid Amount of $1,000,000 or less, However the Contractor is responsible for meeting the time requirements of the Contract and the Project Engineer/Supervisor is responsible for ensuring that the Contractor Meets these requirements.

2. Projects With Schedule Requirements.
   For all projects not covered by item 1 the Contractor is required to submit project schedule information to the Project Engineer/Supervisor. This includes a Preliminary Construction Schedule, if applicable, a Detailed Construction Schedule, and Monthly Schedule Update Reports and, as needed, revised Detailed Construction Schedules. Project Schedules will be in the form of either an Activities Schedule Chart (ASC) or a Critical Path Method Network Schedule (CPM). All project schedules will include the supporting narrative, tabular, and graphic information. A CPM will be required for all projects with a Total Bid Amount of $5,000,000 or more or containing an I/D clause.

The Contractor will provide the Detailed Construction Schedule, describing work activities through project completion, within (60) calendar days from Contract Award. Even after the Notice to Proceed is given to the Contractor, the Contractor may not pursue any item of work until the DOH has reviewed the Detailed Construction Schedule. Any schedule information from the Contractor, if it is to be effective, require complete understanding by all project Personnel.

105.3.1.1 Effect of Records of Contact upon Working Time

All Records of Contact will address the issue of working time analysis in accordance with Section 105.3.4 of this manual.

105.3.2 Review of Detailed Construction Schedule

The DOH considers the original Detailed Construction Schedule to be the Contractor's official proposal for satisfactorily meeting the requirements of the contract. The Project Engineer/Supervisor will use this Schedule as the Basis for monitoring the construction progress. Within five working days of receiving the Schedule, the Project Engineer/Supervisor and as needed, the District Construction Engineer will carefully review the schedule for compliance with the Contract and forward the schedule with notification of any discrepancies and deviations to the Contract Administration Division. It is not the responsibility of the DOH personnel to approve or disapprove any project schedule. The Contractor will incorporate the DOH recommendations and comment and return the Detailed Construction Schedule within (90) calendar days from Contract Award;

otherwise, the Project Engineer/Supervisor will withhold estimated payments for work on the project.

105.3.3 Project Control for Scheduled Projects

Each month, the Project Engineer/Supervisor will schedule a Project Control Meeting with the Contractor's Project Superintendent, or designee, other DOH project personnel, as needed, and FHWA, if applicable, to review actual progress and changes to the schedule and to discuss planned activities and any anticipated changes to the schedule in the month that follows. The Project Engineer/Supervisor will provide advance notice to the Contractor of the date of the Project Control Meeting and, at least two (2) working days before the Meeting, the Contractor's Project Superintendent, or designee, will submit the Monthly Schedule Update Report to the Project Engineer/ Supervisor. Should the Contractor fail to submit the Report on time, the Project Engineer/ Supervisor will withhold estimated payments until the Report is received. The Report will include the following information as required in the Standard Specifications:

1. Detailed Construction Schedule Update – a complete update of the ASC or CPM schedule;

2. a description of progress made on work activities along the critical path;

3. a description of all work activities completed and or started in the previous month; and

4. a discussion of any current or anticipated schedule changes due to Change Orders or delays, including a description of the delay factors and any corrective actions taken or proposed.

The Project Engineer/Supervisor will review the Monthly Schedule Update Report and discuss relevant issues with the Contractor's Project Superintendent during the Meeting. Of particular interest during the review of the Schedule are the following conditions:

1. delays greater than ten (10) calendar days on work activities on the critical path;

2. Change Orders adding, deleting, or revising work activities in the network; and/or

3. work activities being performed out of sequence.

If any of the above conditions are evident, the Contractor must provide DOH with a revised Detailed Construction Schedule, and the Contract Administration Division may need to consider granting a contract extension if justified. Within ten (10) working days of the Project Control Meeting, the Project Engineer/Supervisor will document and submit to the Contract Administration Division Form DC-472C – Evaluation of Project Progress documenting the monthly project status including any notification of the need to evaluate a Contract time extension. The Project Engineer/ Supervisor also will provide the Contractor with written notification of the need to submit a revised Detailed Construction Schedule. The Contractor will incorporate DOH recommendations and submit the revised Detailed Construction Schedule within five (5) working days of the Project Engineer/ Supervisor's written request. Should the Contractor fail to submit the revised Detailed Construction Schedule, the Project Engineer/Supervisor will withhold estimated payments until the revised Schedule is received. Contract time extensions will be processed and documented according to the procedures in Section 105.3.4.

105.3.4 Contract Time Extensions

105.3.4.1 General

The Contract will specify the time basis for completing the work (e.g., number of working

days, fixed calendar dates). The Contract Administration Division will evaluate and grant Contract time extensions on a current basis when events occur that warrant revision to interim completion dates or the Contract completion date. Contract time extensions generally result from either Contract modifications (e.g., Change Orders) or extraneous factors (e.g., delays). Delays may be classified as one of the following two types:

1. excusable (non-compensable) delays that occur beyond the control of both the DOH and the Contractor; or
2. excusable (compensable) delays that occur beyond the control of the Contractor.

Only delays in the work activities on the critical path or, in the absence of scheduling requirements, delays in the controlling operation will be considered for a Contract time extension provided the Contractor has submitted proper notification and supporting documentation that justifies granting the request. In all cases the Contractor is responsible for notifying the Department of conditions which would change the working time to complete the project. The Department is responsibility for verification of the Contractor submitted request for additional working time in accordance with the provisions of Section 108.6.2 of the Standard Specifications. Failure of the Contractor to notify the Department of a need for a revision in working time within the specified time interval constitutes waiver of all claims for additional time and money arising out of the delay. The specified time intervals will be addressed under the various project types. Approved Contract time extensions will not exceed the amount of delay experienced. All District recommendations pertaining to Contract time extensions require the approval of the Contract Administration Division.

105.3.4.2 Time Impact Analysis/Summary

As each modification or delay occurs during the project, the Project Engineer/Supervisor will prepare a Time Impact Analysis Form DC-472 to document the planned activities affected or constrained by the modification or delay. The Project Engineer/ Supervisor also will maintain a Time Impact Analysis Summary Form DC-472A that documents a tabulation of all Contract time extensions requested and granted throughout the life of the project. A final Time Impact Analysis Summary Form DC-472A will be prepared and submitted with a Record of Contact to Contract Administration Division for review and approval. The approved Record of Contact and all attachment regard time analysis will be submitted with the Contract Completion Report (Form 416). Contact the Contract Administration Division for the Time Impact Analysis and Time Impact Summary forms Form DC-472A.

105.3.4.3 Change Orders

The method of evaluating time extensions resulting from work covered by Change Orders will be recorded on the Change Order document in accordance with Section 110.2.2.

105.3.4.4 Contracts With Schedules

Contracts that require Detailed Construction Schedules also require the Contractor to submit Monthly Schedule Update Reports and meet with DOH at monthly Project Control Meetings as discussed in Section 105.3.3. Time extensions for these types of Contracts will be evaluated and processed as follows:

1. Monthly Schedule Update Reports that show delay factors (including weather) will be jointly evaluated by the District, appropriate DOH Division(s), and FHWA (on non-exempt and concurrence Federal-aid contracts) to determine if a time extension is justified.

2. Recommendations regarding time extensions, as well as verbal concurrence and/or comments by the reviewing organizations, will be documented by Record of Contact only if actual working

time changes are recommended. (see Section 110).

3. The Record of Contact will be submitted to the Contract Administration Division within ten (10) working days after the Project Control Meeting.

   Attachments to the Record of Contact will include a copy of the Contractor's Monthly Schedule Update Report and a copy of the Time Impact analysis.

4. Records of Contact will be processed in accordance with Section 110 of this manual.

5. A summary of comments presented during the Project Control Meeting and any DOH decisions on the approval of time extensions for the delays set forth in the Monthly Schedule Update Report will be documented by letter to the Contractor within fifteen (15) working days after the Project Control Meeting. Attachments to the letter will Include a copy of the Contractor's Monthly Schedule Update Report and a copy of the Time Impact Analysis.

6. A copy of the notification letter with attachments will be submitted by the District to the Contract Administration Division for filing and distributions to the Federal Highway Administration as required.

105.3.4.5 Contracts Without Schedules: All Federally Funded Projects and State Funded Projects on NHS

For all Federally funded projects and those State funded projects on the NHS that do not require a Detailed Construction Schedule, the Contract completion date is established as a combination of a fixed calendar completion date and a specified number of working days. Time extensions for these types of Contracts will be evaluated and processed as follows:

1. Beginning the second full week following the date that physical work begins on the Contract, the Contractor will furnish the Project Engineer/Supervisor with a Bi-Weekly Working Time Report (Form 418) showing the number of working days charged to the Contract for the preceding weeks and the number of working days specified for completion of the Contract.

2. The Project Engineer/Supervisor will be allowed eight (8) working days to file a written response setting forth in what respect the Bi-Weekly Working Time Report is considered incorrect; otherwise, the Bi-Weekly Working Time Report will be deemed to have been accepted by the Department as correct. The Contractor's submission must be considered immediately to resolve and/or document the dispute before the facts become forgotten or obscured by subsequent events.

3. Any Bi-Weekly Working Time Report or Project Engineer's/Supervisor's replies that shows delay factors (including weather) will be discussed by the District and appropriate DOH Division(s) within eight (8) working days to determine if a time extension is justified.

4. Recommendations regarding a time extension will be documented by Record of Contact (see Section 110).

5. The Record of Contact will be submitted to the Contract Administration Division by the end of the project. Attachments to the Record of Contact will Include a copy of the Time Impact Analysis Form DC-472.

6. Decisions regarding approval of time extensions for delays set forth in a Contractor's submissions will be documented by letter to the Contractor within fifteen (15) working days. Attachments to the letter will include a copy of the contractor's submissions and a copy of the time impact study.

7. A Copy of the notification letter with attachments will be submitted by the District to the Contract Administration Division for filing and distribution to the Federal Highway Administration as Required.

105.3.4.6 Contracts Without Schedules: State Funded Projects off NHS

For State funded projects off the NHS that do not require a Detailed Construction Schedule, the Contract completion date is established as a fixed calendar completion date. Time extensions for these types of Contracts will be evaluated and processed as follows:

1. The contractor shall monthly or at the project completion which ever occurs first, submit a status report including any delay factors (excluding weather) or written request for extension of time. This will be discussed by the District and appropriate DOH Division(s) eight (8) working days to determine if a time extension is justified.

2. Recommendations regarding a time extension as well as verbal concurrence and/or comments by the reviewing organizations will be documented by Record of Contact (see Section 110).

3. The Record of Contact will be submitted to the Contract Administration Division within ten (10) working days after occurrence of the delay or receipt of the Contractor's written request. Attachments to the Record of Contact will include a copy of the Contractor's written request for an extension of time, when applicable, and a copy of the Time Impact Analysis Form DC-472.

4. Records of Contact shall be processed in accordance with Section 110.

5. DOH decisions regarding the approval of time extensions for delays set forth in the Contractor's written request for an extension of time will be documented by letter to the Contractor within fifteen (15) working days after receipt of the Contractor's request Attachments to the letter will include a copy of the Contract's written request and a copy of the Time Impact Analysis Form DC-472.

6. A copy of the notification letter with attachments will be submitted by the District to Contract Administration.

7. Delays due to weather will be evaluated in accordance with the contract specifications upon completion of the Contract.

Such evaluation will be documented by Record of Contact that will be submitted to the Contract Administration Division for approval. Attachments to the Record of Contact will include a copy of the Time Impact Analysis Form DC-472.

105.3.4.7 Timely Revised Working Time Submission

Failure of the Contractor to notify the Department of a need for a revision in working time within the specified time interval constitutes waiver of all claims for additional time and money arising out of the delay. However request can be made stipulating that the full extent of an action upon the working time will not be know until a later date, at which time a specific amount of time can be determined and subsequently requested.

105.4 CLAIMS

The Project Engineer/Supervisor and Project Inspectors are responsible for maintaining detailed and accurate records of construction operations in the Daily Reports. One important objective for this is for DOH to evaluate the validity of any claims made by the Contractor.

The Contractor must file a Notice of Potential Claim and provide written certification as

specified in the Contract. If the Contractor verbally states intent to submit a claim, notify the Contractor in writing to proceed with the Contract and to file the claim in the manner and within the period prescribed in the contract specifications.

The Project Engineer/Supervisor should refrain from expressing any opinions on the validity of potential claims. In addition, the Project Engineer/Supervisor should ensure that any extra work has been first approved by DOH before ordering the Contractor to proceed with such work. The Project Engineer/Supervisor must have an authorized Change Order before giving verbal direction to the Contractor to proceed. Ensure that the factors and events leading up to a claim are documented accurately in the Daily Reports, and acknowledge receipt of any Notice of Potential Claim with a letter to the Contractor signed by the District Construction Engineer within the time period in the contract specifications.

During the performance of the work for which a claim is to be made, a Project Inspector should be on hand at all times. The Inspector should record the following in the Daily Reports:

1. the number and payroll classification of workers and the type of equipment (e.g., size, horsepower, model);

2. the times at which work starts and stops;

3. a detailed description of the operation that is performed;

4. the type and quantity of materials used;

5. the titles of the supervisory personnel present during the work; and

6. any other information to substantiate DOH's position.

These records should be kept independently of payroll sheets, fuel bills, equipment-operation records, and material records that are maintained by the Contractor and furnished to the Project Engineer/Supervisor.

The Project Engineer/Supervisor must be able to prepare a complete history of each claim, supported by written records in the Daily Reports, and to make a recommendation regarding payment. Statements in the Daily Reports should be full and complete. The Project Inspector stationed on the work also should be able to prepare a record of each day's operations in detail.

105.4.1-CLAIM WARNING SIGNS

The most frequent subjects of claims in the construction process are as follows:

1. Time problems and liquidated damages
2. Additional compensation for unanticipated and/or changed conditions
3. Ambiguous contract provisions
4. Extra work
5. Changes in design and specifications
6. Utility and right-of-way delays

Causes for these claims can generally be categorized as follows:

A. Contractor Practices
   1. Inadequate investigation before bidding
   2. Unbalanced bidding
   3. Bidding below costs and over-optimism
   4. Poor planning and use of wrong equipment
   5. Failure to follow authorized procedures

B. Department Practices

   1. Changes in plans or specifications
   2. Inadequate bid information issued by the Department
   3. Inadequate time for bid preparation
   4. Excessively narrow interpretation of plans and/or specifications
   5. Restrictive specifications
   6. Contract requirements for social/economic objectives unrelated to the construction process

105.4.2-FACTORS IN MANAGING CONSTRUCTION CONTRACT CLAIMS

Many activities beyond the control of the Project Engineer/Project Supervisor can/do occur while managing claims.

The following is an attempt to aid in identifying and managing construction contract claims. There is no one way to do this and as the Department is only one party to the contract as well as the Contractor; the Contractor may propose other routes for solution which may include "C" or "H" level intervention, non-binding mediation, remediation, or having their legal representative go directly to the Division of Highways Legal Division.

105.4.2.1-Identifying a Potential Dispute

By identifying a potential dispute early on, appropriate action can be taken to either resolve the problem or mitigate its impact. The identification method should include development of the following basic information at the project and District level:

1. Contract name, number and date
2. Potential or definite claim
3. Summary of Contractor's position
4. Applicable contract specifications and drawings
5. Alleged cause of dispute/claim
6. Potential cost of dispute/claim
7. Potential magnitude of delay
8. Project or District position on dispute/claim

105.4.2.2-Recording and Monitoring All Items of Work Affected by the Potential Dispute/Claim

Good records facilitate the prompt and cost effective resolution of claims. Records at the project level must be kept in great detail and should reflect some measure of productivity. For instance, rather than just record the number of cubic yards that were moved over a certain interval of time, if the records indicate a measure of the amount of cubic yards per crew day, per piece of equipment, per man day, or some other measurable productivity unit, it is then possible to determine the degree of any claimed delay.

Photographs and videotapes should be used in maintaining records relative to claims. Following are guidelines for using photographs or videotapes for claims purposes (See Section 111.1.2.1 for additional information on photographs and videotapes):

1. Documentation as mentioned above for photographs and/or videotapes should be the responsibility of the Project Engineer/ Supervisor or their designee.

2 The identification record for each photograph and/or videotape must be detailed as discussed above.

3. Complete and accurate Daily Reports should be filled out to document the existence of the photographs and/or videotapes.

4. Avoid unnecessary photographs and/or videotapes as they may include irrelevant information to the claim.

5. Do not provide commentary on a videotape. Avoid making conclusions prematurely while documenting the issue of the claim. Each individual videotape should include documentation for a single claim resolution. Stick to facts; i.e. locations, dates, time, and brief description of what is being filmed. Save the final commentary for a memorandum.

    1. Don't put multiple claims or projects on one tape.

    2. Avoid wide panoramic shots, stick to the issue at hand.

105.4.2.3-Notifying All Potentially Affected Administrators of the Dispute and Involving Appropriate Personnel as Soon as Possible.

The information developed in Section 105.4.2.1 should be transmitted by the District to Contract Administration Division as notification of the potential dispute. The Contract Administration Division should provide the necessary coordination to ensure that other appropriate Divisions and, when applicable, FHWA personnel are involved as soon as possible.

105.4.2.4-Identifying Possible Methods of Resolution at the Project and District Levels

As soon as a potential dispute/claim is identified, the project and District should ensure that all documentation related to the problem is assembled in a complete and organized manner. The documentation should be reviewed for completeness and a specific claim file should be established both at the project and District levels. A chronological listing of any actions relating to the potential dispute/claim shall be maintained as part of the claim file.

Once the documentation is organized, the District should perform a preliminary review, which should follow five basic steps:

1. Was there a change?
   The first question that must be answered is, "did the Department require the Contractor either by directive or through some type of constructive change to perform something, which was not clearly specified in the contract documents?" If the potential answer is yes, go to step 2.

2. Who was liable?
   Obviously, this is a relatively simple question, did the Contractor cause the change or did the Department? Probably the major factor impeding the process of claims resolution is the lack of objectivity. In determining liability, Department personnel should be as objective as possible.

3. What is the impact of the change?
   Impacts can take many forms such as delays, extra work, inefficiency, increased cost of labor, material, and/or equipment, etc. The impacts must be defined as specific as possible in order to calculate the damages associated with each particular impact.

4. What are the reasonable costs of the impacts?
   If the impacts are clearly defined, this becomes an easier task to accomplish.

5. What are the recommended actions?

The five steps just outlined should always be followed in sequence. It makes no sense and will probably result in wasted effort to not follow the sequence.

Upon completion of the above preliminary review, the District shall prepare a detailed, clear, concise, and documented analysis of the project, the changes, the liability, the impacts, damages, delays, etc., and recommended actions. This analysis and supporting documentation should be submitted to the Regional Engineer from the Contract Administration Division. If concurrence is given from the Regional Engineer, an appropriate contact report and change order should be processed. If concurrence is not obtained, proceed to Section 105.4.2.5.

105.4.2.5-Review of the District Analysis by the Contract Administration Division

Review at the Contract Administration Division level will be performed by a committee potentially consisting of a Regional Engineer not associated with the District submitting the analysis, a representative from Legal Division, a representative from Auditing Division, a representative from the Development Division

which prepared the contract documents, and (non-exempt NHS projects only) an Area Engineer from the FHWA not associated with the District submitting the analysis. This committee will be named the Claims Review Committee (CRC) and will independently evaluate the claim and, within 30 calendar days after receipt of the District analysis, provide written recommendations to the Contract Administration Division Director for resolution of the claim.

The CRC's evaluation process shall consist of the following:

1. Detailed review of the analysis and supporting data submitted by the District including the applicable contract documents.

2. Discussions with the appropriate Regional Engineer, Construction Engineer, Area engineer/Supervisor, Project Engineer/Supervisor, Field Inspector(s), etc., to establish the District's position relative to the merits of the claim.

3. If the District's recommendation is to deny the claim in whole or part, discussions with representatives of the Contractor should be conducted to establish the Contractor's position relative to the merits of the claim.

4. Discussions with other Divisions within the Department when appropriate.

5. Prepare written recommendations for the resolution of the claim.

The Contract Administration Division will advise the District of the CRC decision. The District will notify the Contractor.

105.4.2.6-Legal Division Involvement

If the claim is not resolved and results in a formal complaint in the Court of Claims or Circuit Court, Legal Division will become the lead division in resolving the claim:

1. The Legal Division and Contract Administration Division will determine if outside help (claims consultant) is required. If yes, services will be procured by the Legal Division.

2. All communications between the Contractor and the Department should be reviewed by the Legal Division.

3. The Legal Division will coordinate preparing all formal pleadings with the Contract Administration Division and others as appropriate.

4. No settlement shall be made without a written opinion from Legal Division on the legality of the settlement.

5. Settlement negotiations should be conducted through or with the knowledge of both party's attorneys.

105.4.2.7-Requesting FHWA Reimbursement for any Claim Settlement or Court Award

The Contract Administration Division will coordinate preparing requests from the FHWA for any claim settlement which should usually occur with a Contact Report. The Legal Division will coordinate preparing requests for reimbursement from the FHWA for any court award.

Supporting data for any requested FHWA reimbursement should include:

1. Information as to the legal and contractual basis for the claim.

2. The factual (engineering evaluation) and cost data supporting the settlement or award.

3. A copy of the complaint filed by the Contractor and the Department's response to the counts in the claim and any amendments thereto.

4. A certification letter from the Auditing Division, when applicable, of the actual costs incurred by the Contractor

5. A memorandum of law (settlement Memorandum) from the Legal Division

6. Submission of any other pertinent court papers, legal briefs, and previous legal determinations and key exhibits that assisted in settling the claim.

7. In negotiated settlements, the history on how the Department rationalized its initial to final position on the claim.

105.5 DAILY REPORTS (DRs)

105.5.1 Purpose

On every construction project administered by the Contract Administration Division, DOH project personnel (e.g., Project Supervisor/ Engineer, Project Inspectors) will prepare Daily Reports (DRs) to record the day-by-day accounts of the work in progress, thus demonstrating that the quality and quantity of materials and workmanship are adequately meeting the requirements of the Contract Plans and Specifications. Because the Contract Finalization process actually begins with the preparation of the first DR, it is important to make complete and accurate entries in all DRs throughout the project. The DRs are used to administer the Contract at the project level and serve as a primary source of input to the Project Records System. The DRs are the only means by which DOH can ensure that a project is being built as specified. In addition, DR entries may become important evidence in determining responsibility and liability if a Notice of Potential Claim is filed by the Contractor.

105.5.2 Responsibilities

Unless otherwise instructed, each Project Inspector, as assigned, is responsible for submitting an Inspector's Daily Report (IDR) on Form 442-IDR and its attachments for all items of work inspected. Each IDR will be signed and dated by the Project Inspector and forwarded to the Project Engineer/Supervisor. The Project Engineer/Supervisor reviews, checking for completeness and accuracy of measurements before approving, the IDRs and prepares the Supervisor's Daily Report (SDR) on Form 442-SDR. Each SDR will be consecutively numbered, signed, and dated by the Project Engineer/Supervisor. The Project Engineer/ Supervisor also ensures that the appropriate data on the SDRs and IDRs is accurately transferred to the Project Records System. The Project Engineer/ Supervisor will maintain all SDRs and IDRs in a loose-leaf binder in the Project Field Office for the duration of the project. Upon completing the project, the original DRs will be forwarded to the District Office; however, for some Federal-aid projects, the original DRs will be forwarded to the Contract Administration Division.

105.5.3 Form 442

To better organize the preparation of Daily Reports, the Contract Administration Division has established Form 442 for use by DOH project personnel to collect the various data needed to administer the Contract. See the Appendix for completed examples. The Project Engineer/Supervisor and the Project Inspectors, respectively, use the following two versions of Form 442:

1. Supervisor's Daily Report (Form 442-SDR); and

2. Inspector's Daily Report (Form 442-IDR and attachments).

The Project Engineer/Supervisor and all Project Inspectors must be thoroughly familiar with Form 442, especially Form 442-IDR. There are over twenty attachments to Form 442-IDR, and rarely are all used for one particular project. Each attachment is in the form of a worksheet and is applicable only to the inspection of a particular item of work. The following are some of the areas covered by specific IDR worksheets:

1. aggregates;
2. deck removal and rotomilling;
3. asphalt pavement and latex modified concrete;
4. tack, prime, and surface treatments;
5. reinforcing steel;
6. drainage structures and slot inlets;
7. high-strength fasteners and bolt testing;
8. right-of-way fencing and guardrail;
9. pavement markings and traffic control;
10. load limit violations; and
11. labor, materials, and equipment.

It is important to use the correct worksheet for the particular item of work being inspected. Request the assistance of the Project Engineer/Supervisor if there is any question on the disposition or completion of a worksheet. Make certain that the worksheets are attached to a properly completed Form 442-IDR before they are forwarded to the Project Engineer/ Supervisor. Project Inspectors must use separate worksheets for monitoring the labor, materials, and equipment used by the Contractor for any work associated with LME Force Account Work Orders.

105.5.4 Daily Report Entries

The entries of events and data on DRs are likely to be more complete and reliable and, therefore, of greater potential value, if each entry is made promptly after the event occurs or the information is obtained. Do not wait until the end of the day to record entries on the DR for the entire day's activities. By making prompt entries, the Project Engineer/Supervisor and the Project Inspectors are less likely to forget events that may subsequently become overshadowed in importance by others. The sequence of individual DR entries is not of great importance, if all entries made for the day are present, clear, and complete. Erasures of entries are not acceptable. Corrections will be made only by striking out and correcting erroneous information. All corrections will be initialed and dated by the DOH personnel making the correction.

105.5.4.1 SDR Entries

The Project Engineer/Supervisor will begin preparing SDRs after the Starting Notice is given to the Contractor (see Section 105.6.6). The first entries on the SDR will provide the names of DOH personnel assigned to the project, the names of the Contractor's supervisory staff, and a list of the major items of equipment. Subsequent SDRs will be sequentially numbered and include the following minimum information:

1. temperature and weather (AM and PM);
2. controlling operation;
3. chargeable day (Y or N) and if not, why not;
4. all instructions received (regardless of how received);

5. visitors to project and reason for visit;

6. documentation of information necessary to develop contact reports. This will include the following:

   a. reason for needing a contact report; and

   b. all persons contacted and their comments.

7. controlling line number/item number.

The above list is not a comprehensive list and may be expanded to cover as much pertinent data as the Project Engineer/Supervisor considers necessary.

105.5.4.2 IDR Entries

Project Inspectors will begin inspecting work items and preparing IDRs as assigned by the Project Engineer/Supervisor. Each IDR will include sufficient information to verify the quantities of all pay items and to adequately demonstrate that the work is being performed in substantial compliance with the Contract Plans and Specifications. Clearly delineate entries on the IDR (e.g., pay items, classes of workers, types of equipment) and identify the station number of individual operations. Should a question arise as to the propriety of including notes on the IDR for a particular item or event, it is better to include it. There are no restrictions on such notes, and they may become valuable later. If an IDR entry reflects a controversial issue or question, ensure that an entry is made in a subsequent IDR to reflect the resolution of the issue. Although the Project Engineer/Supervisor may request additional information, the following list presents the minimum level of documentation required on IDRs:

1. authorization number, Contract line number, and item number;

2. description of the material, quantity of material received, quantity of material placed, including all supporting calculations and drawings;

3. laboratory numbers for source approval, mix designs, field quality control sampling and testing, and acceptance activities (Samples taken at the project site by the project or Contractor personnel will have the laboratory number assigned by the Project Engineer/Supervisor, or designee);

4. results of visual inspections;

5. specify the controlling item of work;

6. utility work in progress;

7. equipment used at each location;

8. weather and average temperature;

9. the number of people working at each location per item and the hours worked by each;

10. visits by superiors or other employees of the West Virginia Division of Highways or by representatives of the Federal Highway Administration, including their instructions and comments;

11. inspections made or work performed by employees of any public service company, railroad, or other public carrier in effecting necessary changes to poles, lines, tracks, drainage, or other structures;

12. inspections by DEP, DNR, or other regulatory agencies and any comments or instructions;

13. references to force account work or extra work performed by the Contractor;

14. instructions, other than those which are routine, given to the Contractor or his authorized representatives;

15. decisions reached about changes in Plans and their necessity, and the persons by whom they were authorized;

16. notes, originating from the beginning of the issue of any questions raised by the Contractor or his representatives which might later develop into disputes or claims, and the Project Engineer's/Supervisor's reply;

17. extent and cause of delays to work for such reasons as breakdown of equipment or adverse weather conditions;

18. note any failing material and its disposition; and

19. records of closing and opening of roads to traffic.

The above list is not a comprehensive list and may be expanded to cover as much pertinent data as the Project Engineer/Supervisor considers necessary.

105.5.4.3 Review of Daily Reports

To meet engineering fiscal requirements, inspection data should provide sufficient information to determine that the project was built in substantial compliance with the Plans and Specifications and allow verification of pay quantities. If insufficient documentation is provided by the Contractor to determine quality and quantity of work, payment will not be made on current Voucher Estimates. Daily Reports must be reviewed on a daily basis by the Project Engineer/Supervisor and staff to:

1. verify that the location, measurements, quantity, quality, and progress of work are accurately documented and in compliance with the governing specifications, contract documents, and/or established procedures;

2. verify the accuracy of the method of measurement, "set-ups" for calculations and subsequent mathematical computations utilized to establish quantities set forth on the Daily Report; and

3. verify that sufficient information exists to substantiate the quality of materials used per the minimum evidence of inspection provided by the Contract Administration Division (see Division 700).

Once the above items are complete, the following activities should be initiated:

1. enter appropriate data from the Daily Report to PRS; and

2. enter appropriate data from the Daily Reports to the necessary project documents (As-Built Plans, etc.);

The review of the Daily Reports is performed on a current basis to confirm that all work to date is accurately documented and measured in compliance with contract documents, and to ensure timely transfer of appropriate data to PRS and to necessary project documents. Any deficiencies discovered during the verification process are corrected in accordance with established procedures prior to the transfer of any data from the Daily Reports. The "Current" Quantity Validation Report must be reviewed to:

1. verify that Daily Reports accurately document measurements and the calculations of quantities for payment;

2. verify that Daily Reports accurately document the quality of materials "including laboratory numbers" incorporated into the project;

3. verify that appropriate data was transferred from the Daily Reports to the necessary project documents (As-Built Plans, etc.)

4. verify the accurate transfer of data from the Daily Reports to the PRS;

5. verify that only work performed and accepted in accordance with the governing specifications, contract documents, and/or established procedures is included for payment on the current Voucher Estimate;

6. verify that all materials included for payment on the current Voucher Estimate are covered by tests which are used to confirm compliance with the governing specifications, contract documents, and/or established procedures; and

7. verify that specific and detailed reasons are given for any variation between plan quantity and final quantity on every completed item represented for payment on the current Voucher Estimate.

This review is performed prior to generation of the current Voucher Estimate and represents a 100% review of the project records for every item in the Contract, including lump sum items and items which are new to the Contract by change order to ensure proper payment for all work performed to date. All measurements, calculations, and tickets are to be included in this process. Any deficiencies discovered during the verification process are corrected in accordance with established procedures prior to generation of the current Voucher Estimate.

Performance of the Project/Resurfacing Section-level review of the Daily Reports, the current Validation Report, and the accuracy of the items and quantities represented on the Reports are verified by the reviewer's signature (not initials) on each Daily Report and on each Quantity Validation Report. Each line number will be checked marked in green to signify each has been reviewed.

The District office must complete a 100% review of the project records in the same manner as previously described in the project review. Every item in the Contract including lump sum items and new items added by change order to the Contract will be checked. This is to be completed within 15 days following the District's receipt of the current QVR and estimates. Each item check will be marked in red to verify the review process.

105.6 PRS WORKFLOW

At the project level, Project Engineers/ Supervisors and Project Inspectors use the DOH Project Records System (PRS), a menu driven database management system, to collect and manage project data and achieve a higher degree of efficiency to administer the Contract.

Prior to entering data into PRS, the Daily Report entries are reviewed to verify that the work is being accurately documented and measured for payment and to ensure that the Contractor is performing in accordance with the Plans and Specifications. This verification process is performed on a day-to-day basis to ensure the timely transfer of applicable data from the Daily Reports to the Project Record System and to other DOH forms. Any deficiencies discovered during the verification process will be corrected in accordance with established DOH procedures prior to the transfer of any data from the Daily Reports.

Section 105.6.1 describes the documents generally included in the Contract, some of which are primary source documents for input into PRS. Beginning with Section 105.6.2, guidance is presented for the proper use of PRS functions from project initialization to finalization. The PRS functions are numbered sequentially consistent with the recommended workflow. For additional guidance on the use of PRS, see the **PRS User's Manual**.

105.6.1 Contract Documents

The Contractor will be responsible for meeting all obligations imposed by the Contract including furnishing all labor, materials, equipment, and other incidentals and performing all duties necessary to successfully complete the bid items in the Contract. A bid item is a specific unit of work for which a price is provided in the Contract. Several components of the Contract

will be used as primary source documents for input to initialize PRS. The Contract generally includes:

1. Advertisement. The advertisement refers to the notification to Contractors that bids for work or materials to be furnished are being sought.

2. Proposal. The Proposal is the offer of a bidder to perform the work and to furnish the labor and material at the prices quoted. The Proposal Form is the approved form on which the DOH requires a bid to be prepared.

3. Contract Bond. The Contract Bond is the security, executed by the Contractor and their Surety, guaranteeing completion of the work and payment of all legal debts pertaining to the construction of the project. The Surety is the corporation, partnership, or individual, other than the Contractor, executing the Contract Bond furnished by the Contractor.

4. PS&E Package. The PS&E Package consists of the plans, specifications, and estimates. The Plans refer to the plans, profiles, typical cross sections, working drawings, standard drawings, and supplemental drawings which show the location, character, dimensions, and details of the work to be completed. Working Drawings are stress sheets, shop drawings, erection plans, falsework plans, framework plans, cofferdam plans, bending diagrams for reinforcing steel, or any other supplemental data that the Contractor is required to use on the project. The Specifications refer to the **Standard Specifications**, **Supplemental Specifications**, and any Special Provisions. The Estimate is the official itemization of the value of materials in place and work performed.

5. Notice to Proceed. The Notice to Proceed is written notification to the Contractor to proceed with the work including, when applicable, the date of beginning of Contract Time.

6. Change Orders. Change orders refer to the LME Force Account Work Orders and/or the Supplemental Agreements required to complete construction in an acceptable manner, including any authorized extensions. An LME Force Account Work Order is an order signed by the State Highway Engineer, or authorized representative, directing additional work to be performed, with payments based on labor, materials used, equipment cost, plus specified percentages. A Supplemental Agreement is a modification to the Contract describing changes to the Plans and/or quantities that establishes the basis of payment and any needed time adjustments for the work necessitated because of the modification. A Supplemental Agreement requires the signature of the Commissioner, the Contractor, and the Surety, or their authorized representatives.

105.6.2 Initialize PRS Libraries

The PRS Libraries contain information common to the project. In most cases, the data is prerequisite to the use of other PRS functions. Initialize the PRS Libraries in the following sequence:

1. Input for State Library. Use Input for State Library to input and maintain the data necessary for States and territories. The State abbreviation must exist in this library before adding any address information in PRS (e.g., Input for Division Library, Input for Vendor Library).

2. Input for County Library. Use Input for County Library to input and maintain needed data for counties within West Virginia and adjacent States. The county number must exist in this library before using it elsewhere in PRS (e.g., Input for Employee Library, Input Project Data).

3. Input for Wage Code Library. Use Input for Wage Code Library to input and maintain the data needed to establish the DOH list of wage codes. The wage code number must exist in this library before adding an employee's record in PRS (i.e., Input for Employee Library).

4. Input for Organization Library. Use Input for Organization Library to input and maintain the data needed to describe the organization of the DOH. The chart number must exist in this library before adding any employee records in PRS (i.e., Input For Employee Library).

5. Input for Employee Library. Use Input for Employee Library to input and maintain the data needed for the list of employees. The employee's social security number must exist in this library before using the employee's number elsewhere in PRS. Also, enter the Supervisor's social security number before that of the employee's.

6. Input for Equipment Library. Use Input for Equipment Library to input and maintain the data necessary to establish the equipment list.

7. Input for Division Library. Use Input for Division Library to input and maintain the data needed to establish the DOH Divisions. Include the initials of the individual that is to receive correspondence. The Division code must exist in this library before using it elsewhere in PRS to generate forms, letters, and memorandums.
8. Input for Vendor Library. Use Input for Vendor Library to input and maintain the data needed to establish the vendor list. The vendor's FEIN must exist in this library file before using it elsewhere in PRS to generate forms, letters, and memorandums.

9. Input for Item Library. Use Input for Item Library to input and maintain the DOH standard item list. Item numbers are added as needed to describe the work involved. Do not change item numbers to distinguish items of the same work. Unique line numbers will be used for this purpose. The item number must exist in this library before using it elsewhere in PRS.

105.6.3 Initialize Contract/Project Data

Once the Contract is awarded, it is necessary to input the contract and project information into PRS. The Notice of Award and Schedule of Progress and other related contractual documents provide the necessary data. Use the following sequence of functions to perform this task:

1. Input Project Data. Use Input Project Data to input and maintain project and contract information. Use the Supplemental Authorization Number 1 for Construction, the Contract Proposal, and the Contract Bond as the primary source documents for input.

2. Update Accounting Data. Use Update Accounting Data to input and maintain the project's financial information. Use the Supplemental Authorization Number 1 for Construction as the primary source document for input.

3. Input Line Item Data. Use Input Line Item Data to input and maintain information on the project line items as originally bid. Do not include items for additional work. Use the Contract Schedule of Bid Prices as the primary source document for input.
4. Update Bond & Insurance Data. Use Update Bond & Insurance Data to input and maintain the data for the project's Contract Bond and Insurance. This information will be entered by the Contract Administration Division and downloaded to the District and project. The vendor must have a Public Liability and Property Damage Insurance Policy for the Contract. In addition, the Contractor may be required to have other

types of insurance depending on the type of work involved. Use the Contractor's Certificate of Insurance as the primary source document for input.

105.6.4 Schedule Pre-Construction Conference

A Pre-Construction Conference is a conference normally called by the District Construction Engineer, under the District Engineer, following award and prior to start of construction, to be attended by DOH officials and by the responsible officials of the Contractor and other affected parties (FHWA, utilities, DNR, DEP, railroads etc). Once PRS has been initialized with the requisite contract and project information, use the following PRS function to schedule a Pre-Construction Conference:

1. Generate Notice of Pre-Construction Conference. Use Generate Notice of Pre-Construction Conference to generate a Notice of Pre-Construction Conference. The Pre-Construction Conference allows the DOH and the Contractor to discuss real or anticipated construction problems or contractual issues and develop a plan for their early resolution.

105.6.5 Give Notice to Proceed

After the Pre-Construction Conference and once all preliminary requirements of the Contract have been satisfied, official notice to begin work must be given to the Contractor. A Notice to Proceed is written notification to the Contractor to proceed with the contract work including, when applicable, the date of beginning of Contract Time. If the Contractor employs one or more Subcontractors, DOH approval first must be granted. Use the following PRS functions to perform these tasks:

1. Generate Notice to Proceed. Use Generate Notice to Proceed to generate the official Notice to Proceed. The official Notice to Proceed authorizes the Contractor to begin work on the project.

2. Input & Transmit Subcontracting Data. Use Input & Transmit Subcontracting Data to document the Subcontractors that are submitted by the Contractor. All Subcontractors must first be licensed with the DOH and exist in the PRS Vendor Library.

105.6.6 Begin Construction

Once the Contractor begins work, document the starting date by generating a Starting Notice for the Contractor and for any of the Prime's Subcontractors. At this time and throughout the remainder of the project, enter into PRS the applicable data describing the work performed from the Supervisor's Daily Reports (Form 442-SDR) and the Inspector's Daily Reports (Form 442-IDR). Use the following PRS functions to perform these tasks:

1. Generate Prime's Starting Notice. Use Generate Prime's Starting Notice to generate the Contractor's Starting Notice. The Contractor's Starting Notice documents the date the Contractor actually begins work on the project.

2. Generate Subcontractor's Starting Notice. Use Generate Subcontractor's Starting Notice to generate the Subcontractor's Starting Notice. The Subcontractor's Starting Notice documents the date the Subcontractor actually begins work on and/or left the project.
3. Input Daily Reports. Use Input Daily Reports to enter and maintain the documentation of the work performed on the project line items (i.e., bid or added) of the Contract. Use the actual Supervisor's Daily Reports (Form 442-SDR) and Inspector's Daily Reports (Form 442-IDR) as the source documents for entering the applicable data into PRS.

Section 106

CONTROL OF MATERIALS

Section 106 of the **Standard Specifications** establishes the respective obligations of the Contractor and the DOH concerning the materials to be used. The following Section presents specific DOH procedures and additional clarifying information.

106.1 ACCEPTANCE OF MATERIALS

106.1.1 General

All materials used in highway construction projects must conform to the requirements of the contract specifications. The project records must document by proper reports the quality assurance data for all materials used. Control of materials for a project includes the following:

1. acceptance at the source;
2. Contractor's quality control program;
3. acceptance sampling and testing; and
4. independent assurance sampling.

To avoid misunderstanding, a discussion of material approval procedures will be presented at the Pre-Construction Conference. Additionally, the memorandum "Evidence of Inspection and Documentation" will be distributed to the Contractor, Project Engineer/Supervisor, and the Project Inspectors at the Pre-Construction Conference. This memorandum covers the minimum requirements for acceptable materials and evidence of inspection. The memorandum changes frequently and is available in hard copy format from the Finalization Group, or it may be downloaded from the FTP folder of the Contract Administration Division Server. Material that is covered by less than the minimum evidence of inspection will not be incorporated in the work.

106.1.2 Contract's Proposed Source of Materials (Form 454)

Immediately after award, the Contractor will be notified by a standard letter from the District Construction Engineer that three copies of a properly executed Contractor's Proposed Source of Materials (Form 454) will be submitted to the District Materials Supervisor prior to, or at, the Pre-Construction Conference. The address, not the Post Office Box, of the actual point of manufacture of each type of material must be listed separately. If material is supplied by a third party, both the supplier and the manufacturer must be listed. The supplier must be listed first. The intent of Form 454 is to disclose to DOH all materials to be provided by subcontractors or suppliers including all raw materials used in the production of bituminous concrete, Portland cement concrete, and other composite materials. The District Materials Supervisor will check Form 454 against the contract items to ensure that all project materials have been listed. The District Materials Supervisor will forward a copy of the Contractor's Proposed Source of Materials to Contract Administration Division and to the Project Engineer/Supervisor. Any changes in material source or supply will necessitate a prompt revision of Contractor's Form 454. The initial submission of Form 454 by the Contractor may be partial in nature. As the project progresses, supplemental additions to Form 454 may be submitted by the Contractor prior to the use of those specific materials.

The procedures for approval of material sources will be fully disclosed at the Pre-Construction Conference by the representative of the MCS&T Division and/or the District Materials Supervisor. At this time, the Contractor must prepare a letter to each of its suppliers advising them that all materials should be tested and

accepted by DOH prior to shipment to the construction site. The presentation will include a discussion on pre-sampling and pre-testing procedures and the types of samples and certificates required.

Upon receipt of the executed Contractor's Proposed Source of Materials (Form 454), the District Materials Supervisor will initiate action to establish initial acceptance arrangements. Relative to DOH, if a new supplier is listed on Form 454, the District Materials Supervisor will establish contact with the proposed source to initiate testing.

106.1.3 Evidence of Inspection

With some exceptions (e.g., sand for pipe bedding, fine aggregate material, piling), all materials used in DOH construction are pre-inspected (i.e., tested and approved to meet the contract specifications) before they are delivered to the project. The Project Inspector will ensure that the project materials are delivered to the site with the proper shipping documents, which must include the laboratory number as evidence of inspection. The Project Inspectors will enter the laboratory numbers on their IDRs for subsequent entry in the Project Records System. In addition to the laboratory numbers on the shipping document, some materials have additional inspection requirements and additional indicators for evidence of inspection.

Visually inspect all materials at the point of delivery. The Project Inspectors have the final opportunity to observe project materials to detect any problems before they are incorporated in the project. If evidence of inspection is lacking or less than minimum or if there is any doubt as to a material's acceptability, immediately contact the District Materials Supervisor before the material is accepted.

When materials are shipped to projects from intermediate suppliers, the supplier's shipping document must reference the laboratory number and the original manufacturer's shipping document number. The original manufacturer (i.e., point of sampling) must submit the proper documentation to the MCS&T Division. The Project Engineer/Super-visor will forward a copy of all shipping documents to the District Materials Supervisor.

Documentation for all materials will reference a project authorization number for which the material is intended. This is a unique number assigned by the DOH Finance Division that is used by the Project Records System to track project financial information. Shipping documents also will reference a laboratory number assigned by the MCS&T Division to indicate that the particular material is acceptable. A laboratory number will represent one of the following types of approval:

1. Approved Source Number. A DOH approved product or source number is a laboratory number that documents a material from the DOH Approved Product and Source Listing. This laboratory number will be identified on the shipping document with the letter "A" preceded by a series of numeric digits. Documentation of acceptaility will consist of the quantity received and the Material Section's laboratory number as placed on the IDR and entered in the PRS system. A copy of this documentation will be forwarded to the District Materials Supervisor. Approved source numbers are typically used for materials such as aggregates, guardrail, and curing compounds.

2. Master Number. A master number is a laboratory number this is typically used for drop inlets and fabricated castings (i.e., multiple sources of materials). This laboratory number will be identified on the shipping document with the letter "M" preceded by a series of numeric digits. Documentation of acceptability will consist of the quantity received and the Material Section's laboratory number as placed on the IDR and entered in the PRS system. A copy of the documentation will be forwarded to the Fabrication Group of the MCS&T Division.

3. Direct Coverage (DC) Number. DC numbers are laboratory numbers used for project specific materials. They are not applicable to pre-certified approved sources. Materials accepted in this manner will have an associated direct sampling and testing report (i.e., a T-7 Report). For example, a T-7 Report for a fabricated sign will state that all components, each of which have their own laboratory numbers, used in fabricating the sign have been tested and approved during the fabrication process. This laboratory number will be identified with the letter "DC" preceded by a series of numeric digits. Documentation of acceptability will consist of the quantity received and Material Section's laboratory number as place on the IDR and entered in the PRS system.

106.1.4 Contractor's Quality Control Program

Quality control is the responsibility of the Contractor for each item as required by the contract specifications. Requirements for the Contractor's Quality Control Program are set forth in the contract specifications.

106.1.5 Verification Sampling and Testing

Acceptance sampling and testing is the responsibility of DOH. Materials inspection, sampling, and testing performed by Project Inspectors under the Project Engineer/ Supervisor are of several types, depending on the materials involved. Requirements are set forth in the contract specifications and the Material Procedures (MPs). The Materials Procedures may be obtained from either the District Materials Supervisor or the MCS&T Division. The MPs are also available from the WVDOT-DOH Internet Web Site. Some of this type of testing can be accomplished by the Project Inspector witnessing the Contractor's quality control tests and documenting the results on the IDR.

All samples taken at the project by the Contractor or the District will have a laboratory number issued by the Project Engineer/Supervisor to identify the sample. This information will be recorded on the IDR and entered into the laboratory number section of PRS, except for compaction test which will be referenced by laboratory number in the memo field. The Contractor shall submit the original work sheet of all quality control tests to the District's Materials Section, except compaction tests, which will have the original submitted to the project for review, before submission to the District's Material Section.

Any testing of materials after they are delivered to the project site should be expedited, as practical, to avoid potential delays to the Contractor. If there is any problem with inspection, sampling, or testing methods, the Project Engineer/Supervisor should obtain specific instructions from the District Materials Supervisor.

106.1.6 Independent Assurance Sampling

The contract specifications provide for Independent Assurance Sampling. Independent Assurance Sampling is a supplemental program to the routine quality control performed by the Contractor and the verification sampling and testing performed by Project Inspectors. Independent assurance sampling procedures must conform to the DOH criteria established for minimum evidence of inspection. See MP 700.00.53 – "Procedures for Evaluating Independent Assurance Samples with Acceptance Samples" for additional information.

106.2 QC/QA AND MATERIALS MANAGEMENT

This Section provides DOH project personnel with an overview of DOH QC/QA program and how DOH performs materials management for all construction projects. It will provide the reader with a better understanding of the roles and responsibilities of the Central Office, District Office, Project personnel, and the Contractor and its materials suppliers and manufacturers.

106.2.1 Quality Control/Quality Assurance

To ensure quality, DOH has adapted a systems approach, in the form of a QC/QA program, to the production of many highway construction materials and certain highway construction operations, as specified in the contract specifications. The QC/QA program meets FHWA requirements for Federal-aid projects as documented in 23 CFR 637.205. This approach consists of a Quality Control (QC) function, for which the Contractor and the material producer and/or manufacturer are responsible, and a Quality Assurance (QA) function, for which DOH is responsible for accepting or rejecting the work or material. The QC/QA functions of both the DOH and the Contractor must be staffed by qualified personnel, and the Contractor, where specified in the Contract, must submit a Quality Control Plan.

The data used in the QC/QA process comes from shipping documents, project site test results, and laboratories of the Contractor, manufacturer, producer, District, and MCS&T Division. There are numerous DOH support functions and programs that assist in administering the QC/QA approach (e.g., PRS, MMS, plant evaluations, use of QC tests for acceptance, Independent Assurance Sampling). Because the Contractor conducts tests at the same frequency as those required for DOH acceptance, DOH can use the Contractor's QC test data to assist in making determinations on acceptance, thus significantly reducing DOH on-site testing requirements. A primary advantage of the QC/QA approach is that DOH personnel can focus on inspection activities and better assist those having trouble with process control rather than performing all routine sampling and testing activities. In addition, DOH has fewer disagreements with the Contractor over the quality of test data, and the Contractor no longer must halt operations until a Project Inspector arrives with test results.

106.2.2 Materials Management System

The MCS&T Division employs a Materials Management System (MMS) to track materials used in DOH construction projects. The MMS database contains information on all materials tested by Central Office, District Office, and Project Field Office laboratories and on those materials where tests were observed at the manufacturing or production source. The MMS is used to record test data, track and locate test documents, and provide documentation on the status of material tests and acceptance to DOH project personnel. The Finalization Group also uses the MMS to evaluate the acceptability of a Contract pay item and to prepare the final letter of Materials Certification. Materials Certification is needed for all DOH construction projects.

106.2.3 Approval of Off-Site Materials

The Contractor must provide DOH with a Contractor's Proposed Source of Materials (Form 454) as discussed in Section 106.1.3. Two types of sources may be listed on Form 454: a pre-approved source and an unapproved source.

106.2.3.1 Pre-Approved Source

A source that is listed on the Contractor's Proposed Source of Materials may have already been approved by DOH.

Pre-approved sources generally will be maintained on the DOH Approved Source and Product Listing for a specific time until a renewed approval is established by the Materials Control, Soils and Testing Division. Contact the MCS&T Division or download from the WVDOT-DOH Internet Web Site the current DOH Approved Source and Product Listing.

106.2.3.2 Unapproved Source

If a source is not pre-approved by DOH, the MCS&T Division will contact the source listed on the Contractor's Proposed Source of Materials (Form 454) and arrange for source approval or for the testing of a specific "lot" of

material. A "lot" generally refers to an isolated quantity of specified material from a single source. The variability of the material to be supplied will become the determining factor for source approval. Lot approval will only apply to the defined quantity of material. Source and lot approvals for unapproved sources are as follows:

1. Lot Approval. Sampling of a specific lot is arranged and, in most instances, these samples are submitted to DOH laboratories for testing and approval. A sampling report is submitted with each sample. This report is essential because it is used to enter into the MMS the information necessary for project-level documentation and to support the final letter of Materials Certification when the pay item is completed.

2. Source Approval. Source approval works similar to lot approval except that the data used for approval will often include manufacturer quality control data and site inspection results by DOH materials personnel. A report for source approval will be issued similarly to the sample report issued for the sampling of a specific lot.

Lot and source approval reports are essential to MMS because they initiate tracking of the material approval process through project implementation and final Materials Certification.

106.2.4 Laboratory Testing

Material samples for projects throughout the State are routinely routed to the Central and District laboratories. Upon receiving a sample for lot or source approval, a DOH laboratory will assign a laboratory number for tracking purposes (see Section 106.1.3). Basic information from the sample report is entered into the MMS including source identification, material identification and, if applicable, project identification. As each laboratory completes its testing, the results of the test data are entered, cross-referenced, and tracked using the MMS. Because the MMS data is available to all DOH Districts and their respective project personnel, this allows DOH to track a material sample from the time it is received at a laboratory until the time final Material Certification is needed for the item. The MMS also tracks the approval of composite ingredients for such items as Portland cement concrete. For a PCC item, the MMS would maintain data on the ingredients (e.g., cement, aggregates, admixtures, water) as well as the resulting PCC. If the DOH, Contractor, producer, or manufacturer requests status of a test on a particular sample, DOH personnel are able to quickly access and provide the information.

106.2.5 Approval and Delivery

After materials are tested at a DOH laboratory, DOH personnel will evaluate the test results in accordance with the contract specifications. If the material source or lot is approved, the MCS&T Division will notify the manufacturer or producer. Upon delivery, the manufacturer or producer must provide shipping documents as minimum evidence of inspection to demonstrate that delivered materials are from an approved lot or approved source (see Section 106.1.3). The Project Engineer/Supervisor will ensure that a copy of the shipping document is forwarded to the District Materials Supervisor. Upon receipt of the shipping document, the MCS&T Division will enter in the MMS the source identification, destination identification, material type, lot identification (i.e., the lot number at the time of approval), and the quantity delivered. The MMS allows DOH to verify the status of each shipment and the remaining balance in an approved lot of material.

106.2.6 Project-Level Documentation

The on-site Project Inspector is responsible for recording on the IDR the quantity of material delivered and placed and the acceptability of the material. If a manufacturer or producer delivers material to the site, the Project Inspector must verify that the shipping document references the appropriate laboratory numbers (see Section 106.1.3). DOH project personnel will enter the laboratory number and additional information from the shipping document in the MMS and

request verification of acceptability. The MMS will assign the request a tracking number and PRS will upload the data to the MMS, which, in turn, will verify the data entered with data previously entered by the MCS&T Division on the status of the approved lot of material. The MMS will verify the lot identification, delivery date, project identification, and quantity. At the time the data is uploaded, the MMS will immediately notify project-level personnel of any deviations in acceptance criteria. All deviations must be resolved prior to the MCS&T Division performing the final review and audit; otherwise, acceptance criteria has been met and the MMS will document completion and acceptance of the pay item. All data entered at the project level must match the data in the MMS for that particular material. If the data matches, the MMS will generate a verification report for the Project Engineer/ Supervisor documenting the quantity shipped from the approved lot. As part of the tracking and auditing system, the MMS will then adjust the balance of the quantity remaining in the approved lot.

106.2.7 Project Materials Certification

The primary objective of the MMS is to track and document Materials Certification for all project pay items during project construction. Refer to MP 700.00.01 for a description of the shipping document. The MMS will use project-level materials data from PRS and DOH laboratories to document the acceptability of pay items (e.g., validity of samples and tests, results comply with Specifications, lot and source approvals properly documented, shipments properly documented and traceable to source). If material discrepancies had been encountered during the project, the MMS would have immediately alerted DOH personnel to resolve the issue. Materials Certification, in essence, occurs as the project is being constructed. At the time Project Materials Certification is required for finalization, the MMS provides DOH personnel with an efficient and relatively routine method of validating project pay items. After project completion, DOH generates the Materials Certification for the project, which is an important FHWA requirement. The Finalization Group will use the MMS to generate a report documenting the acceptability of each pay item in the project. The final report will be signed and dated by the Finalization Group, and the project records of the MMS will be locked to protect against unauthorized modification.

Section 107

LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

Section 107 of the **Standard Specifications** establishes the respective obligations of the Contractor and the DOH concerning legal relations and responsibility to the public. The following Section presents specific DOH procedures and additional clarifying information.

107.1 PERSONNEL AND PUBLIC RELATIONS

107.1.1 Integrity of DOH Personnel

The integrity of DOH personnel must be of the highest caliber to promote a high degree of public confidence. All DOH personnel are subject to the following guidelines:

1. Moonlighting. DOH personnel should not engage in any type of outside work, such as engineering, surveying, or design work for highway Contractors or others doing business with the State, because work of this type may have a tendency to cast doubt on the individual's activity and the DOH. If a DOH employee plans to seek extra employment that may be questionable, the individual should first seek the advice of the immediate supervisor.

2. Financial Conflicts. No one in DOH, whose job involves negotiating, approving, or administering any contract or transaction on behalf of the Division, will have any financial interest, direct or indirect, in the case.

3. Real Estate Disclosure. Any DOH employee, who has an interest in real property being acquired for highway purposes, will fully document the facts of the interest and will not engage in any way in the purchase of the real property.

4. Use of DOH Equipment. DOH employees will not use Division equipment for personal business.

5. Gratuities. The solicitation or acceptance of gifts, cash or loans by DOH personnel from any Contractor or supplier doing business with the State is prohibited.

6. Falsification of Records. All project records will be maintained accurately and clearly. Erasures must not be made; corrections will be made by striking out the incorrect data, entering the correct data, and affixing the initials of the person making the correction. Entering test data where no tests were performed will be construed as falsification of records.

7. Disciplinary Action. Any employee involved in dishonesty or serious conflict of interest will be subject to severe disciplinary action and possible dismissal from the Department.

107.1.2 Employee-Contractor Relationship

Consider the following guidelines to better maintain good employee-contractor relations:

1. treat the Contractor fairly and impartially;

2. study the Contractor's viewpoint, be friendly but impersonal, and do not obligate yourself;

3. make suggestions to the Contractor only, and do not discuss with outsiders the Contractor's methods of handling work;

4. be ready to advise the Contractor when requested, but do not make snap decisions;

5. issue all orders only to the Contractor's Superintendent or designated representative;

6. write and retain copies of all important orders given to the Contractor and attach them to the SDR or IDR, as appropriate;

7. discuss with the Contractor the schedule, and coordinate your work with his schedule;

8. do not be arbitrary or become involved in pointless arguments with the Contractor on matters related to the work; and

9. do not accept gratuities from the Contractor; do not be threatened or intimidated by Contractor employees, and notify your supervisor of any trouble.

107.1.3 Public Relations

Courtesy and consideration are necessary in all contacts with the public because the entire DOH is judged by the actions of its employees. Although an employee may not obligate DOH to any course of action or any expense without due authorization, the employee should always be as tactful and helpful as conditions permit. The media of communication with the public are many (e.g., newspapers, radio, television, service clubs, Chambers of Commerce, city and county officials, direct contact with individuals). Consider the following guidelines when dealing with public issues:

1. Controversial Issues. If conditions are encountered that might develop into public controversy, the information should be transmitted through channels so that an early news release can inform the public of the facts. Information given to the public must not be slanted or evasive.

2. Interviews/Press Releases. Where public contact is made by newspaper, radio, or television reporters, the Project Engineer/ Supervisor should contact the Construction Engineer and follow any instruction received. This can help avoid issuance of conflicting information to the public that may cause embarrassment to DOH. Approval from the Commissioner for news releases will be obtained as needed.

3. Affected Residents. In dealing with residents along the highway, the Project Engineer/ Supervisor must endeavor to maintain friendly relations. Frequent requests will be made on which the Project Engineer/ Supervisor will not have authority to act. In such cases, the Project Engineer/Supervisor should make every effort not to offend the resident making the request. The Project Engineer/Supervisor should not just refer interested residents up the chain of command, but should advise the resident that he/she will take the matter up with his/her supervisor. After doing so, the Project Engineer/Supervisor should personally contact the interested resident with a response.

107.2 LEGAL ISSUES

107.2.1 Contractor's Responsibility for Work

The entire responsibility for the work resides with the Contractor during construction until final acceptance of the project by the Division. The Contractor must maintain and protect the project from the elements. Exceptions include:

1. damage due to an act of God;

2. damage from a slide judged by DOH to have been unavoidable; and

3. damage from ordinary wear of a pavement section open to traffic by order of the Project Engineer/Supervisor.

The Division will not be prevented in any way from ascertaining the true amount and character of the work performed or the materials furnished or from recovering damages that may be sustained because of failure of the Contractor to comply with the terms of the Contract. The Project Engineer/Supervisor must therefore maintain complete records. These records will be the major basis for substantiating the Division's action.

107.2.2 Compliance with Laws

The contract specifications require the Contractor to observe and comply with all Federal and State laws and with local ordinances and other regulations that affect the work on the project. In addition, the Contractor is required to keep the DOH and its personnel free from liability for any claim resulting from any violation of any law by the Contractor or its representatives. The Contractor must indemnify the Division and its personnel for any harm suffered because of such a violation. These provisions do not mean that the Project Engineer/Supervisor should attempt to enforce a law. However, if a violation is evident, the Project Engineer/Supervisor should notify the Contractor in writing and maintain a copy in the project records.

107.2.3 Construction Project Safety

Safety concerns everyone involved in highway construction, including DOH and Contractor personnel and the traveling public. Consider the following safety related guidelines:

1. Health and Safety Requirements. To reduce the number of accidental deaths and job related injuries and illnesses throughout the United States, the Occupational Safety and Health Act (OSHA) was enacted by Congress on December 29, 1970. The Act authorizes the U.S. Department of Labor to set and enforce mandatory occupational safety and health standards. The Contractor must comply with the OSHA Federal Construction Safety Standards. Responsibility for enforcement of the safety regulation has been officially assigned to the West Virginia Department of Labor and the U.S. Department of Labor. The Contractor will also meet the sanitation requirements of the State and local Boards of Health.

2. Contractor's Safety Program. The Contractor must comply with the contract specifications for all safety related provisions including health and safety programs, safety training, qualified Safety Officers, and weekly on-site informational safety meetings. On projects with a Total Contract Bid Amount exceeding $2,000,000, the Contractor must submit both comprehensive and site-specific Safety Plans to the Project Engineer/Supervisor at the Pre-Construction Conference or prior to the start of work. The Safety Plan will address the work to be performed by the Prime Contractor and all Subcontractors. The Project Engineer/Supervisor and the Project Inspectors will monitor the Contractor's safety program. The Project Engineer/Supervisor will promptly notify the District Construction Engineer of any serious safety violations by the Contractor or its employees.

3. Project Personnel. The District Construction Engineer, or designee, will conduct periodic safety meetings with District and DOH project personnel in accordance with current DOH safety directives. Many hazards exist on a construction project that require all project personnel to be constantly alert to avoid injury. Some special precautions that can improve safety in extra-hazard situations are:

   a. Hard Hats. For safety and identification, all DOH personnel assigned to the

project will wear safety (hard) hats, where directed by current policy, that bear the DOH seal. No other information other than the name of the person should be indicated on the hat. Contractor personnel should not wear hard hats bearing the DOH seal.

b. Safety Vests. DOH personnel must wear safety vests while working in traffic. Contractor personnel should not wear safety vests that display the DOH seal.

c. Signs and Flaggers. Project Inspectors should ensure that adequate signs and flaggers are provided where work must be performed on existing highways.

d. Night Illumination. If an evening or overnight operation is performed, check that the Contractor provides adequate illumination for workers.

e. Trenches. The Contractor must provide shoring of trenches to protect workers in accordance with the current OSHA safety criteria.

f. Blasting. Whenever blasting is being performed, adequate protection should be provided, including warning signs to prohibit radio and cell phone transmission. The Contractor must meet the requirements of the Specifications when using explosives, local laws and ordinances, clearances from roads and buildings, and coordination with utility and railroad companies. In addition, the Contractor is solely responsible for property damage and injury claims resulting from blasting.

g. Railroad-Highway Crossings. The Contractor must comply with the provisions of the Contract related to railroad-highway crossings. The Contractor's key point of contact is the Chief Engineer of the Railroad Company. If construction operations are performed adjacent to or within railroad right-of-way, the Contractor will meet the provisions for notifying the Railroad Company, insurance requirements, use of grade crossings, interference with railroad operations, coordination of schedules, track clearances, and use of railroad flaggers.

4. Traveling Public. The traveling public should be protected from danger due to construction operations. Adequate barricades and signs should be placed where they are most effective. The Contractor must perform this task in accordance with the DOH **Traffic Control for Street and Highway Construction and Maintenance Operations**. If needed, flaggers should be provided. There should be no doubt when roads are closed and where detours are located. When signs and barricades have served their purpose, they should be removed.

107.2.4 Protection and Restoration of Property

The Contractor must take every practical precaution necessary to prevent damage to public and private property adjacent to the project, either above ground or below ground, which will remain and is legally responsible for restoration and any damage claims. The Contractor is responsible for protecting State and National Forests and for complying with all regulations of the State Fire Marshal, the DNR, and other environmental agencies. A discussion on environmental issues is presented in Section 107.4. Before construction begins, the Project Engineer/Supervisor will visit the site with the Contractor to identify trees, monuments, and features of property that will remain in place and undamaged. Frequently, the Contractor will arrange with nearby property owners for the use of facilities or property for the storage of material, office space, or access. See Section 201 for additional information on protection and restoration of property, off-site-property

agreements, and selective clearing and grubbing. The Contractor also must restore any alterations to the highway surface permitted for utility adjustments.

107.2.5 Patented Devices, Materials, and Processes

The Contractor must obtain all necessary permits or licenses for the use of patented devices, materials, and processes in performing the work. The Project Engineer/Supervisor has no obligation to determine that the Contractor conforms to these requirements but may assist the Contractor by calling attention to any known infringements.

107.3 EMPLOYMENT AND LABOR ISSUES

107.3.1 Equal Employment Opportunity (EEO)

For all Federal-aid contracts awarded by DOH in excess of $10,000, all Contractors and Subcontractors must adopt the EEO Policy set forth in the Special Provision included in the Contract Proposal. The Contractor and Subcontractor must submit Annual EEO Report (Form FHWA-1391) for the month of July. In addition, the Contractor must submit the Monthly Manpower Utilization Report (EEO 150) for each month the Contractor or Subcontractor works on the Project. These activities are established by DOH to ascertain that Contractors and Subcontractors are complying with the EEO obligations of the Contract. The EEO program is administered by the External Contract Compliance Section of the Contract Administration Division. Both External Contract Compliance Section personnel and Project Inspectors will be involved in performing periodic inspections to determine compliance. The following procedures will apply:

1. External Contract Compliance Section personnel will contact the Project Engineer/ Supervisor prior to making periodic inspections of the project.

2. It is recommended that the Project Engineer/ Supervisor or Project Inspector accompany the EEO Specialist during the initial review and any subsequent reviews with the Contractor.

3. The External Contract Compliance Section personnel will furnish the District Construction Engineer with two (2) copies of the EEO Report covering all reviews of the project.

4. The District Construction Engineer will be furnished copies of any correspondence to the Contractor regarding noted deficiencies.

107.3.2 On-the-Job Training

The Code of Federal Regulations (23 CFR 230A Section 230.11) requires the DOH to review each Federal-aid project regarding its capacity to support training for minority, women, and disadvantaged workers in highway construction. The DOH will determine the number of trainees to receive On-the-Job Training (OJT) and so specify in the Contract by Special Provision and Bid Item (e.g. Item 699). The following sections document the responsibilities of the OJT Program.

107.3.2.1 Contractor Responsibilities

At the Pre-Construction Conference, the Contractor will submit to the EEO External Contract Compliance Section through the District Construction Engineer, a Training Proposal designating the number of trainees and a Training Program for each selected work classification in accordance with the OJT Special Provision. After receiving approval for the OJT Program from the DOH, the Contractor will submit to the Project Engineer/Supervisor a

Trainee Enrollment Form for each proposed trainee. During the project, the Contractor is responsible for submitting daily to the Project Engineer/Supervisor an executed EEO 437 indicating the training conducted against the OJT Pay Item. The Contractor will obtain form EEO 437 from the External Contract Compliance Section of the Contract Administration Division. The Contractor will submit to the Project Engineer/Supervisor a Trainee Termination Form for all terminated trainees. Upon completion of the Program, all Trainees must receive a letter or certificate of completion. A copy of the certificate must be provided to the Trainee, Project Engineer/ Supervisor, and the External Contract Compliance Section.

107.3.2.2 External Contract Compliance Section Responsibilities

The External Contract Compliance Section of the Contract Administration Division administers the OJT Program and maintains a permanent record of all trainees working on projects under contract with the OJT Special Provision. At the Pre-Construction Conference, the External Contract Compliance Section will provide the Contractor with an informational packet outlining Contractor responsibilities regarding the OJT Program. Upon receipt of the Training Proposal and Program, the External Contract Compliance Section will review the documents for compliance. Once approved, the External Contract Compliance Section will forward a copy of the Training Proposal and Training Program to the Project Engineer/Supervisor. The External Contract Compliance Section will periodically monitor the OJT Pay Item to check that the requirements of the OJT Special Provision are being met.

107.3.2.3 Project Engineer/Supervisor Responsibilities

Upon receipt of the Contractor's OJT Training Proposal and Program, the Project Engineer/ Supervisor is responsible for reviewing the documents and clarifying with the External Contract Compliance Section any questions. The External Contract Compliance Section provides a checklist of responsibilities regarding the OJT Program. During the project, the Project Engineer/Supervisor verifies and documents that OJT trainees are being trained in accordance with the requirements of the Contractor's Training Proposal and Program. Upon receipt of the Contractor's completed Form EEO 437, the Project Engineer/Supervisor will verify the information against the Inspector's Daily Report Form EEO 442-IDR and prepare the data for entry in the Project Records System (PRS). The Social Security Number of each trainee must be referenced in the "Plan ID" column of Form 442-IDR. The data entered in PRS will be used to prepare progress estimates for the OJT Pay Item. The Project Engineer/Supervisor will monitor to ensure that the number of chargeable hours recorded on Form 442-IDR for the OJT Pay Item is the actual number of hours that the trainee worked within the classification specified in the Contractor's approved Training Proposal. Form EEO 434, which notes current and total training hours, is prepared monthly and forwarded to the External Contract Compliance Section. If a trainee voluntarily quits or is otherwise terminated by the Contractor before completing the required number of hours for the training classification or one thousand (1000) hours, the Contractor will replace that trainee with a new trainee who will be eligible for up to one thousand (1000) hours of training in the specified training classification. If the one thousand (1000) hours allotted for the new trainee exceeds the total number established in the Training Proposal for the project, it will be considered an overrun of Bid Item 699 at the conclusion of the Contract.

107.3.3 Labor Regulations

The contract specifications require the Contractor to comply with all regulations applicable to labor standards. A working knowledge of the these regulations is required of

the Projects Engineer/Supervisor to help evaluate compliance by the Contractor.

The External Contract Compliance Section of the Contract Administration Division is ultimately responsible for monitoring all Federally funded projects to assure compliance with the Labor Standards Provisions of the Contract. However, routine checks for compliance of the following shall be the responsibility of the Project Engineer/ Supervisor:

1. Posters. The required posters and wage rates must be posted at the project site where they are readily accessible to all employees of the Contractor or Subcontractors employed on the site when work is in progress.

2. Interviews. The Project Engineer/ Supervisor or designated person shall conduct interviews of a representative of each craft employed on the site of work with such frequency as may be necessary to assure compliance with the established wage classifications for the work actually performed.

3. Payrolls. The Contractor and all Sub-contractors are required to submit Weekly Certified Payrolls (WH-347) on all Federal-aid projects. The Contractor is not required to submit payroll information on state-funded projects; however, the Contractor should provide applicable data upon request.

4. Payroll Processing. The following applies:

    a. The original copy of each Weekly Certified Payroll (WH-347) or Supplemental Payroll, with original Statement of Compliance (WH-348) attached, should be submitted to the Project Engineer/Supervisor within seven (7) days following payroll payment date.

    b. The Project Engineer/Supervisor or designated person will check the documents for compliance with wage provisions of the Contract. As needed, data will be verified through employee interviews. Spot checks will be made for such items as:

        i. work classifications;

        ii. hourly wage rates for each employee, including overtime hours and rate, and fringe benefits it applicable;

        iii. daily and weekly total hours shown and net wages paid;

        iv. signature on certification; and

        v. approved payroll deductions.

    c. If any significant deficiency is found, the Project Engineer/Supervisor should inform the District Construction Engineer, who will contact the External Contract Compliance Section, which will determine if a full-scale investigation is needed.

    d. Certified payrolls should be numbered in consecutive order with the last payroll for the project marked “final.” When work is suspended, the Contractor should submit a Weekly Statement of Compliance (WH-348) noting the date the work is suspended.

    e. The Contractor/Subcontractor will submit Supplemental Payrolls for any payroll that requires correction. The original payroll should not be returned to the Contractor.

    f. West Virginia Division of Highways Labor Compliance Inspection Report Federal-aid Projects should be used to document inspections made.

g. Copies of Certified Payrolls that are reviewed should be signed and dated by the person reviewing the payrolls.

5. Final Inspection. The following applies:

a. The Project Engineer/Supervisor prior to completing the Final Inspection Report (Form 467) shall conduct a review of the project Labor Compliance records. Any unresolved Labor Compliance items should be added to the punch list for the project.

b. A copy of the Final Inspection Report should be submitted to the External Contract Compliance Section, Contract Administration Division to allow for any Contractor compliance issues not noted by the Project Engineer/Supervisor to be considered prior to the final payment.

If all certified payrolls have been received from the Contractor and all Subcontractors and there are no known exceptions, the Project Engineer/Supervisor will sign off on the Labor Compliance Inspection Report (DCL-1). The Labor Compliance Inspection Report should be included in the Final Estimate package for the project.

107.3.4 Hatch Act (Project Procedure)

For Federal-aid projects, employees are subject to the provisions of the Hatch Act, a Federal law concerning political activity. The following quotes the applicable section of Title 5 (Section 118K):

(A) *No officer or employee of any State or local agency whose principal employment is in connection with any activity which is financed in whole or in part by loan or grants made by the United States or by any Federal agency shall (1) use his official authority or influence for the purpose of interfering with an election or a nomination for office, or affect the result thereof, or (2) directly or indirectly coerce, attempt to coerce, command or advise any other such officer or employee to pay, lend, or contribute any part of his salary or compensation or anything else of value to any party, committee, organization, agency, or person for political purposes. No such official or employee shall take any active part in political management or in political campaigns. All such persons shall retain the right to vote as they may choose and to express their opinions on all political subjects and candidates.*

107.4 ENVIRONMENTAL ISSUES

107.4.1 General

Because of the diverse and complex nature of highway construction, its potential impact on the environment encompasses many specific environmental issues. The general policy of the Division is that all construction activities will be implemented to minimize their impact on the environment and to comply with all environmental laws promulgated at the Federal, State and local levels. Failure to adhere to all relative regulations can result in substantial fines and other serious consequences.

Highway construction can cause water pollution, soil erosion, and noise pollution. Damage may not always be restricted to the right-of-way (e.g., silting of streams outside project limits). Visual pollution (eye sores) can result from poor selection of waste and borrow sites. Haul roads are also a possible source of erosion, pollution and unsightliness if not intelligently located and constructed.

This Section of the **Construction Manual** briefly discusses those environmental issues that relate to construction. Other Sections of the **Manual** discuss environmental considerations for specific construction activities (e.g., Section 207.1.4 discusses erosion and sediment control measures during excavation and embankment construction operations). See the DOH

publication **Environmental Permits** for additional information.

107.4.2 Pre-Construction Activities

During the pre-construction phase of project development, the Division conducts an in-depth evaluation of the proposed project's environmental impacts. For major projects, the pre-construction process will yield an environmental document that will stipulate specific commitments to minimize or mitigate the project's environmental impact during construction. This may include, for example, a Wetlands Compensation Plan, Erosion Control Plan, Special Provisions for the management of hazardous waste materials, etc. The Contractor under the supervision of the Division is responsible for fulfilling all environmental commitments made during the pre-construction phase.

107.4.3 Coordination with Environmental Agencies

Within DOH, the primary contact for environmental issues is the Permits and Hydraulics Unit, Technical Services Section of the Engineering Division. This Section conducts the project's environmental impact analysis during the pre-construction phase of the project. In most cases, if a problem arises during construction, the Permits and Hydraulics Unit, Technical Services Section of the Engineering Division should be contacted to assist in resolving the problem.

At the State level, the Department of Environmental Protection (DEP) and the Division of Natural Resources (DNR) are the principal agencies responsible for environmental protection in West Virginia. In some cases, these agencies may become directly involved in environmental issues during construction. For additional information, see the DOH publication **Environmental Permits**; Section 1, Section 2, Section 7, Section 8, and the Appendix.

107.4.4 Water Quality

107.4.4.1 Legal References

The primary Federal laws on water quality are Sections 401, 402 and 404 of the 1972 Federal Water Pollution Control Act (FWPCA), as amended by the Clean Water Act (1977, 1987). The importance of compliance with all regulations relating to water quality can not be overemphasized.

107.4.4.2 Purpose

The purpose of the FWPCA is to restore and maintain the chemical, physical and biological integrity of the Nation's waters through the prevention, reduction and elimination of pollution.

107.4.4.3 Discussion

Highway runoff is a significant source of water quality degradation. Erosion and sedimentation are natural processes whereby soil materials are detached and transported from one location and deposited in another, primarily due to rainfall and runoff. Accelerated erosion and sedimentation can occur in conjunction with highway construction. This accelerated process can result in significant impacts such as safety hazards, expensive maintenance problems, unsightly conditions, instability of slopes, and disruption of ecosystems.

The prevention and reduction of water quality degradation in highway construction is accomplished through the following mechanisms:

1. Permit Process. During pre-construction and where required, the Engineering Division will have secured the Section 401 Water Quality Certification and/or the Section 404 Army Corps of Engineers' Permit. As appropriate, the Special Provisions will document any restrictions on construction

activities. In addition, a Section 402 National Pollutant Discharge Elimination System (NPDES) Construction Permit may be required. See Section 107.4.9 for more discussion on permits. Field reviews for the above should include WVDNR and WVDEP representatives.

2. Erosion Control Plan. The DOH **Erosion and Sediment Control Manual** documents the Division's policies, procedures and design guidance for erosion control. All projects that disturb soil, regardless of the amount of disturbance, require an Erosion and Sediment Control Plan, which must be developed by the Contractor and approved by the Contract Administration Division. The **Construction Manual** discusses erosion and sediment control for specific work activities as follows:

   a. Clearing and grubbing (Section 201.1.7);

   b. Excavation and embankment (Section 207.1.4);

   c. Borrow excavation (Section 211.1.5);

   d. Structure, rock and wet excavation (Section 212.1.5); and

   e. Temporary water pollution control (Section 642).

For additional information, see the DOH publication **Environmental Permits**; Section 3 and Section 6.

107.4.5 Hazardous Waste

107.4.5.1 Legal References

The primary Federal laws on hazardous waste are the 1976 Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response Compensation and Liability Act (CERCLA).

107.4.5.2 Purpose

The purpose of RCRA is to protect human health and the environment by prohibiting open dumping, managing solid wastes, and regulating the treatment, storage, transportation and disposal of hazardous waste. The purpose of CERCLA is to provide for the liability, compensation, cleanup and emergency response for hazardous substances released into the environment and the cleanup of inactive hazardous waste disposal sites.

107.4.5.3 Discussion

Hazardous wastes include a wide variety of materials that may be encountered during or produced by construction activities, including:

1. asbestos;
2. underground and above-ground storage tanks;
3. mining waste;
4. petroleum products;
5. paints, solvents, enamels, epoxies, etc.;
6. lead acid;
7. pesticides; and
8. heavy metals.

Materials identified as hazardous are known to have adverse environmental and health effects at specific concentrations. In addition to exposing workers to potentially unhealthy levels of chemical contaminants, improper hazardous waste handling can cause contamination to surface water, groundwater and soil.

During pre-construction, the Engineering Division will have identified any known or potential hazardous waste sites, and the Special Provisions will document the proper procedures

for handling and disposing the hazardous waste. If during construction, a previously unreported site is discovered, construction personnel must:

1. report previously undiscovered hazardous sites during construction to the Contract Administration Division;

2. temporarily halt work in the vicinity of a previously undiscovered site;

3. secure area to prevent unauthorized or unprotected personnel access;

4. request investigation of the site to assess the presence of contamination and to determine the need for any cleanup; and

5. oversee any mitigation or cleanup which might be required as part of the construction contract because of involvement with a hazardous site.

For hazardous wastes produced by construction activities, the Contractor in general must comply with all laws promulgated by the West Virginia Division of Environmental Protection (DEP). Specifically for bridge cleaning and painting, the Contractor must comply with the DOH **Best Management Practices for Containment/ Disposal of Waste Products Generated During Bridge Cleaning and Painting Activities**. The **Construction Manual** discusses hazards and hazardous wastes in the following sections:

1. fire hazards (Section 201.2.4),

2. combustible material disposal (Section 201.5.2),

3. non-combustible material disposal (Section 201.5.3),

4. material disposal off right-of-way (Section 201.5.4),

5. asbestos (Section 202.1.3),

6. hazards from building demolition (Section 202.2),

7. disposal of material from building demolition (Section 202.5),

8. potential hazards and disposal of materials from dismantling structures (Section 203), and

9. disposal of waste materials in excavation and embankment (Section 207.4.4).

For additional information, see Section 7 of the DOH publication **Environmental Permits**.

107.4.6 Historic and Archeological Preservation

107.4.6.1 Legal References

The primary legal reference for historical and archeological preservation is Section 106 of the National Historic Preservation Act of 1966, as amended.

107.4.6.2 Purpose

The purpose of Section 106 is to protect, rehabilitate, restore and reuse sites, buildings, structures and objects significant in American history, architecture, archeology, culture and engineering.

107.4.6.3 Discussion

During pre-construction, the Engineering Division will have identified any sites or properties impacted by the project which are on or eligible for inclusion on the National Register of Historic Places. This is accomplished through coordination with the State Historic Preservation Officer (SHPO), the Advisory Council on Historic Preservation (ACHP) and the U.S. Department of Interior. The Special Provisions will document the contract requirements for

avoiding or mitigating the adverse impacts on these sites or properties. In particular, note that Section 106 is applicable to borrow sites on Federal-aid contracts.

State and Federal law require that, when materials of an archeological nature (e.g., Indian ruins, artifacts, fossils) are discovered during construction, this discovery must be reported. In this event, the Project Engineer/Supervisor will immediately halt all work in the vicinity of the discovery and notify the Contract Administration Division as soon as possible. The Division will, in turn, take the necessary steps to advise the appropriate authorities of the facts and permit them to inspect the site to determine a future course of action.

The **Construction Manual** discusses historical and archeological preservation in the following sections:

1. building demolition (Section 202.1.4),

2. excavation and embankment (Section 207.1.8), and

3. borrow excavation (Sections 211.1.10 and 211.3.2).

107.4.7 Construction Noise

107.4.7.1 Legal References

The primary legal references for noise impacts resulting from highway activities are the Federal Noise Control Act of 1972, 23 USC 109(i) and 23 CFR 772 "Procedures for Abatement of Highway Traffic Noise and Construction Noise."

107.4.7.2 Purpose

The purpose of the cited legal references is to provide procedures for noise abatement measures to help protect the public health and welfare, to supply noise abatement criteria, and to establish requirements for information to be provided to local officials for use in the planning, design and construction of highways.

107.4.7.3 Discussion

Noise is any sound that has the potential to annoy or disturb humans or cause an adverse psychological or physiological effect on humans. The noise levels generated during highway construction vary depending on the type of equipment and the nature of the work being performed. Noise impacts can be severe, especially during nighttime activities and, in many cases, simple noise mitigation strategies may not suffice.

Excessive construction noise may result from the following activities:

1. equipment,
2. blasting operations,
3. pile driving,
4. jackhammers, and
5. plant operations.

During pre-construction, the Engineering Division will have performed the following assessment with respect to construction noise:

1. Identify land uses or activities that may be affected by noise from construction, especially sensitive receptors (e.g., schools, hospitals, neighborhoods, churches).

2. Determine appropriate noise criteria limits for the identified receptors. These may be dictated by local regulations or ordinances.

3. Document any measures required during construction to minimize or eliminate adverse construction noise impacts to the surrounding area.

The project Special Provisions will document any restrictions or noise abatement measures required of the Contractor. For example, the Contractor may be required to provide sound-

deadening devices, shields or physical barriers (e.g., plywood sheets, lead-vinyl curtains) or to provide noise abatement measures to restrict the transmission of noise in the immediate vicinity of schools, hospitals, rest homes, churches, libraries, museums, parks and other noise-sensitive sites specified in the Contract. These measures may include limiting working hours to minimize noises during school hours, for example, or may specify certain times for blasting. Other common-sense measures to reduce construction noise include ensuring that equipment is well maintained (e.g., mufflers), operating equipment at lower power, or increasing the spacing of equipment.

For more information, see NCHRP Synthesis 218 **Mitigation of Nighttime Construction Noise, Vibrations and Other Nuisances**.

107.4.8 Air Quality

107.4.8.1 Legal Reference

The primary Federal law on air quality is the 1990 Clean Air Act Amendments.

107.4.8.2 Purpose

The purpose of the Clean Air Act is to ensure that transportation projects conform to the State or Federal air quality implementation plans, which are based on the National Ambient Air Quality Standards (NAAQS).

107.4.8.3 Discussion

Construction activities generate a number of products that can contribute to air pollution. These include exhausts from equipment, chemical products (e.g., from bridge cleaning and plant operations) and particulate matter (e.g., from dust). In general, the Contractor must comply with the applicable regulations promulgated by the West Virginia Air Pollution Control Commission and, specifically for plant operations, the Contractor must obtain a permit from the Commission. In addition, during periods of limited dispersion, construction operations may be temporarily suspended if those operations are producing the specific air pollution elements of concern.

Sections 207.1.5 and 637 of the **Construction Manual** state that water will be used as a dust palliative, as directed by the Project Engineer/Supervisor, to prevent a public nuisance. Other options for controlling dust include dust suppressants (i.e., cement-based products that form a protective shell once sprayed) and, for open stockpiles, the use of barriers, screens and/or covers. In addition, it may be appropriate to restrict or suspend dust-producing operations during periods of windy and/or dry weather conditions.

107.4.9 Permits

107.4.9.1 General

Compliance with the various environmental laws frequently requires DOH to secure permits from Federal or State agencies. During pre-construction, the Engineering Division will have accomplished this, and the Special Provisions will document any restrictions on construction activities. This Section of the **Construction Manual** briefly discusses those permits that may be required on a specific project. For additional information, see Section 7 of the DOH publication **Environmental Permits**.

107.4.9.2 Section 401 Water Quality Certification

The Section 401 Certification is required in conjunction with any Federal permit (e.g., Section 404) to conduct any activity that may result in any discharge into the waters of the United States. During pre-construction, the Engineering Division will secure the Section 401 Certification on applicable projects from the

West Virginia Department of Environmental Protection.

107.4.9.3 National Pollutant Discharge Elimination System (NPDES) Construction Permit (Section 402)

The NPDES Permit is required for any construction activities involving clearing, grading and excavation that disturb 0.4 hectares (1 acre) or more of land area. Based on West Virginia law, a general permit has been developed, through collaboration between DOH and DEP, which documents DOH compliance with NPDES.

107.4.9.4 Section 404 Army Corps Permit

The Section 404 Permit is required for any discharge of dredge or fill material into waters of the United States, including wetlands. During pre-construction, the Engineering Division will secure the Section 404 Permit on applicable projects from the U.S. Army Corps of Engineers where an individual Section 404 Permit is required.

If an individual project permit is not required, there may be activities or conditions that are under the jurisdiction of the Corps of Engineers. In these cases, a nationwide (blanket) Corps of Engineers permit is in effect, and a Special Provision will be included in the Proposal. The Special Provision will set forth conditions which must be met. A continued violation of any of these conditions will be cause for the Corps to stop work on the project; to suspend or revoke the nationwide permit; or to take other action as appropriate.

The following definitions and other information will aid in administering the Special Provision and the nationwide permit:

1. Waters of the United States. In general, the "waters of the United States" include all wetlands and areas within a blue solid line or a blue dash line on the USGS quadrangle maps. Each river, stream, creek, intermittent tributary, pond, impoundment, lake or wetlands is considered part of the waters of the United States. More specifically, the waters of the United States include:

   a. rivers and streams that are navigable (i.e., either presently, historically or likely to be used for interstate transport);

   b. all interstate waters including interstate wetlands;

   c. all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:

      i. which are or could be used by interstate or foreign travels for recreational or other purposes; or

      ii. from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

      iii. which are used or could be used for industrial purposes by industries in interstate commerce;

   d. all impoundments of water otherwise defined as waters of the United States under this definition;

   e. tributaries of waters identified in (a) through (d) above; and

   f. wetlands adjacent to waters (other than waters that are themselves wetlands) identified in (a) through (e).

   Wastewater treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than

cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition) are not waters of the United States.

2. Wetlands. Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas. Flood-plains, or areas where water stands on, at or near the groundline may be considered suspected wetlands. Guidelines as established by the Corps of Engineers indicate that a wetlands must have all of the following characteristics:

   a. a preponderance of water-tolerant plants;

   b. hydric soils; and

   c. water on, at or near the surface of the ground during a specified portion of the growing seasons.

3. Adjacent. Bordering, contiguous, or neighboring. Wetlands separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes and the like are "adjacent wetlands."

4. Lake. A standing body of open water that occurs in a natural depression fed by one or more streams from which a stream may flow, that occurs due to the widening or natural blockage or cutoff of a river or stream, or that occurs in an isolated natural depression that is not a part of a surface river or stream. The term also includes a standing body of open water created by artificially blocking or restricting the flow of a river, stream, or tidal area. As used in this regulation, the term does not include artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water for such purposes as stock watering, irrigation, settling basins, cooling, or rice growing.

5. Ordinary High Water Mark. The line showing on the shore which is established by fluctuations of water and is indicated by physical characteristics such as clear, natural lines impressed on the waterway bank, shelving, changes in the character or the soil, destruction of terrestrial plants, the presence of litter or debris, or other appropriate means that consider the characteristics of the surrounding area. The Corps generally has jurisdiction only below this line.

6. Headwaters. Rivers, streams and their lakes and impoundments, including adjacent wetlands, which are part of a surface tributary system of a navigable waterway of the United States, upstream of that point on such river or stream at which the average flow rate is less than 5 ft^3/s (0.14 m^3/s). The Corps District engineer may estimate this point from available data by using the mean annual area precipitation, area drainage basin maps, and the average runoff coefficient or by similar means.

7. Dredged Material. Material that is excavated or dredged from waters of the United States.

8. Discharge of Dredged Material. Any addition of dredged material into the waters of the United States. The term includes, without limitation, the addition of dredged material to a specified discharge site located in waters of the United States and the runoff or overflow from a contained land or water disposal area. Discharges of pollutants into waters of the United States resulting from the onshore subsequent processing of dredged material that is extracted for any commercial use (other than fill) are not included within this term and are subject to Section 402 of the Clean Water Act even though the extraction and deposit of such material may require a permit from the

Corps of Engineers. The term does not include plowing, cultivating, seeding and harvesting for the production of food, fiber, and forest products.

9. Fill Material. Any material used for the primary purpose of replacing an aquatic area with dry land or of charging the bottom elevation of a waterbody. The term does not include any pollutant discharged into the water primarily to dispose of waste; that activity is regulated under Section 402 of the Clean Water Act.

10. Discharge of Fill Material. The addition of fill material into waters of the United States. The term generally includes, without limitation, the following activities:

    a. Placement of fill that is necessary to the construction of any structure in a water of the United States;

    b. the building of any structure or impoundment requiring rock, sand, dirt, or other material for its construction;

    c. site-development fills for recreational, industrial, commercial, residential, and other uses;

    d. causeways or road fills;

    e. dams and dikes;

    f. artificial islands;

    g. property protection and/or reclamation devices such as riprap, groins, seawalls, breakwaters, revetments;

    h. beach nourishment;

    i. levees;

    j. fill for structures such as sewage treatment facilities, intake and outfall pipes associated with power plans and subaqueous utility lines; and

    k. artificial reefs.

    The term does not include plowing, cultivating, seeding and harvesting for the production of food, fiber, and forest products.

    When the Proposal or plans make no reference to Corps of Engineers permits and the Contractor indicates an intent to perform dredging or filling below the ordinary high water mark, advise the Contractor not to proceed without the appropriate permit and contact the District Construction Engineer.

107.4.9.5 Section 9 Navigable Waters Permit

The Section 9 Permit is intended to ensure that there will be no interference to navigation on the navigable waters of the United States. It is required for the construction, modification, replacement or removal of any bridge or causeway over a navigable waterway. During pre-construction, the Engineering Division will secure the Section 9 Permit on applicable projects from the U.S. Coast Guard.

107.4.9.6 FAA Navigable Airspace Permit

The FAA Permit is intended to promote safety in air commerce and to preserve the navigable airspace at public-use airports. It is required for any permanent installation (e.g., a high-mast lighting tower) or construction equipment (e.g., cranes, derricks) that is adjacent to a public airport when the installation or equipment is within specific height and distance parameters from the airport. During pre-construction, the Engineering Division will secure the FAA Permit on applicable projects from the Federal Aviation Administration.

Section 108

PROSECUTION AND PROGRESS

Section 108 of the **Standard Specifications** establishes the Contractor's responsibility to furnish adequate labor and equipment forces for meeting specified project schedule requirements. The following Section presents specific DOH procedures and additional clarifying information.

108.1 SUBCONTRACTING REQUESTS

108.1.1 Allowable Subcontracting Arrangements

A subcontracting arrangement is generally considered to exist when a person or firm assumes an obligation to perform a part of the Contract work and the following conditions exist:

1. compensation is based on the amount of work accomplished rather than an hourly basis;

2. choice of work methods, except as restricted by contract specifications, and furnishing and controlling of labor and equipment are exercised by the Subcontractor with only general supervision being exercised by the Contractor; and

3. personnel involved in the operation are under the direct supervision of the Subcontractor and are included on the Subcontractor's payroll.

All of the above conditions must be met for the arrangement to be considered subcontracting. If the arrangement is difficult to define or there are questions, contact the District Construction Engineer.

108.1.2 Subcontracting Request (Form 403)

108.1.2.1 Submittal

The Contractor must submit to the District Office an executed Subcontracting Request (Form 403) for each proposed Subcontractor, including lower-tier Subcontractors. The Request may be submitted by the Contractor at the Pre-Construction Conference or thereafter during prosecution of the work. The Subcontractor will not be permitted to perform any Contract work prior to the written approval of the District Construction Engineer. This approval will be based on satisfactory evidence that each Subcontract is in writing and contains all applicable Contract and Labor Provisions.

108.1.2.2 Documentation Requirements

Contract and Labor Provisions to be contained in the Subcontract will differ depending on the type of funding authorized for the Contract. The Project Engineer/Supervisor must have a working knowledge of the required documentation to assist in evaluating compliance by the Contractor and all Subcontractors. Consider the following guidelines:

1. All Contracts. On all Contracts, the following documents must be included in the Subcontract File maintained by the Contractor:

   a. fully executed Subcontract agreement;

   b. West Virginia Division of Labor Wage Rates;

   c. Special Provision for Disadvantaged Business Enterprise (DBE) Utilization; and

d. Special Provision for Notice of Requirements for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246).

2. Federal-Aid Contracts. In addition to the documents in Item 1, the following must be included on Federal-aid contracts:

   a. FHWA Form 1273 with Attachment A, if applicable, with Special Provision;

   b. US Department of Labor Wage Decisions;

   c. Special Provision for Standard Federal Equal Employment Opportunity Construction contract specifications (Executive Order 11246);

   d. Additional Contract Provisions for Equal Employment Opportunity; and

   e. Special Provision for Application of the Standard of Comparison "Projects of a Similar Character" under the Davis-Bacon and related acts.

3. Documentation Exception. In lieu of submitting a copy of the above documents with each Form 403, the Contractor may certify that the Subcontract is in the form of a written agreement containing all applicable Contract and Labor Provisions pertaining to the Prime Contract. However, all DBE Subcontractor approval requests must be submitted with the proposed subcontract agreement.

Items 1.b through 1.d and Items 2.a through 2.e can also be found in the Contract Proposal.

108.1.2.3 Review and Approval

Prior to the approval of the District Construction Engineer, each submitted Subcontracting Request (Form 403) must be verified for completeness and accuracy by the District Construction Engineer. Use the following guidelines when verifying and processing Subcontracting Requests:

1. Contract and Contractor Data. Compare and verify all data provided on the Subcontracting Request with that documented on the Contract Award Authorization. The Contract ID on Form 403 must match that of the executed Contract.

2. Subcontractor Data. Verify the following Subcontractor data:

   a. Request Number. Verify that the Request Number is next in sequence to that indicated on the previously approved request.

   b. Name, Address, and Phone. Verify the accuracy of the Subcontractor's name and address by using an FEIN inquiry provided by the REMIS system. Although a Subcontractor may have more than one branch office and consequently more than one address, each branch office will have a unique FEIN in the REMIS system. The name, address and FEIN combination must be accurate to facilitate data entry in the PRS Vender File at the Project, or District, level and the BAMS Subcontractor File at the Division level (see Section 105.6.2).

   c. FEI Number. Verify that the Subcontractor is registered with the Division of Administration, Purchasing Section to do business with the State of West Virginia by using the FEIN inquiry provided by the WVFIMS system. Contact Department of Administration, Purchasing Section if difficulties are encountered in verifying a Subcontractor's FEI Number prior to any further processing of Form 403.

   d. West Virginia Contractor's License Number. Verify that the Subcontracting

Request (Form 403) contains a valid license number for the Subcontractor. Senate Bill 409 requires all Contractors to obtain a license from the West Virginia Division of Labor before they are allowed to perform work as a Contractor in West Virginia. Subcontractors must furnish a Contractor's license number to the Prime Contractor prior to execution of any binding Subcontract. Failure of the Subcontractor to have a valid license number will result in the Subcontracting request being returned unapproved. Any difficulties encountered by the District in obtaining or verifying a Subcontractor's license number should be discussed with the Division of Labor prior to any further processing of Form 403.

e. Subcontractor Type. Although the Contractor is required to request approval for all Subcontractors, only the amount of work performed by First Tier Subcontractors is used to compute compliance with the 50% limitation noted in Item 4. Requests for the approval of DBE Subcontractors must be accompanied by a copy of the signed Subcontract agreements and must be approved by the WVDOH EEO Officer or DBE Section staff.

3. Subcontractor Work. Items of work to be performed by the Subcontractor:

a. Full Subletting. When an entire Contract item is to be sublet, the Contract quantity, Contract unit price and amount are to be indicated in the tabulation on Form 403. The accuracy of the data must be verified at the District level by comparison with the Schedule of Prices attached to the Contract Award Authorization.

b. Partial Subletting. When only a portion of a Contract item is to be sublet, the item number followed by the term "PARTIAL" and the estimated or agreed unit price and/or amount are to be indicated in the tabulation on Form 403. The District must verify that the estimated or agreed unit price and/or amount does not exceed that for the item in the Schedule of Prices attached to the Contract Award Authorization.

c. Specialty Items. When an "Identified Specialty Item" is to be sublet, the item number followed by the term "SPECIALTY," the Contract quantity, unit price, and amount are to be indicated in the tabulation on Form 403. The accuracy of the data must be verified at the District level by comparison with the Schedule of Prices attached to the Contract Award Authorization.

d. Subcontractor Replacements. In the event a previously approved Subcontractor fails to perform any of the items indicated on the approved request and the Contractor requests approval of a different Subcontractor to perform the same items of work, a separate request must first be submitted by the Contractor to subtract the non-performed quantities and amounts from the previously approved Subcontractor. This is necessary to facilitate an accurate accounting relative to the 50% limitation noted in Item 4.

4. Derivation of Total Percent Subcontracted. The contract specifications stipulate that the Contractor must perform with his own organization at least 50% of the total contract cost modified by excluding any Identified Specialty Items. The phrase "his own organization" will include only workers employed and paid directly by the Contractor and equipment owned or rented by the Contractor, with or without operators. The phrase "Identified Specialty Items" will be limited to work that requires highly

specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid on the Contract as a whole. Use the following guidelines to verify the total percent subcontracted:

a. Computations. The accuracy of all mathematical computations contained on Form 403 must be verified at the District level.

b. Exclusions. The totals indicated should not include amounts for those items of work to be performed by Tier Subcontractors and should not include amounts for Identified Specialty Items regardless of the type of Subcontract.

c. Amount Previously Subcontracted. Verify that the "Amount Previously Subcontracted" on the current request is equal to the "Total Subcontracted to Date" amount on the previously approved request.

d. Original Contract Amount. Verify that the "Original Contract Amount" is equal to the "Bid Amount Per Attached Schedule of Prices" on the Contract Award Authorization less any Identified Specialty Items.

e. Total Percent Subcontracted. The "Total Percent Subcontracted" is determined by dividing the "Total Subcontracted To Date" amount by the "Original Contract Amount" and multiplying the result by 100. If the "Total Percent Subcontracted" is equal to or greater than 50%, the request must be returned to the Contractor unapproved.

5. Signature. Form 403 must bear the signature and title of a duly authorized representative of the Contractor.

6. Distribution of Copies. Following written approval of Form 403, the District Construction Engineer will distribute one copy of the approved request to each of the following parties and maintain the original document in the District Contract File:

   a. Administrative Section, Contract Administration Division;

   b. EEO Officer (if DBE);

   c. Project Engineer/Supervisor; and

   d. Prime Contractor.

108.2 PROJECT SCHEDULES AND CONTRACT TIME

108.2.1 General

The Contractor will submit project schedules and progress reports as required by the contract specifications (see Section 108 of the **Standard Specifications**). DOH project personnel must monitor the progress of work to ensure that the Contractor is meeting the requirements of the Contract and for taking immediate corrective action, as needed, in accordance with DOH procedures. Section 105.3 of the **Construction Manual** discusses DOH policies and procedures for monitoring the progress of work including project schedule requirements and contract time extensions relative to the type of Contract. It is important to adhere to these policies and procedures and to maintain adequate documentation because the Division may assess liquidated damages against the Contractor for each calendar day work remains uncompleted after the established Contract completion time is exhausted. Section 108 of the **Standard Specifications** also specifies the provisions for default and termination of the Contract.

108.2.2 Contract Time

Contract time is the time provided to the Contractor for completing the project, which is established based on the type of Contract. The

Contract will state the amount and method of calculating Contract time. The Notice to Proceed with the work is usually given to the Contractor at the Pre-Construction Conference. Charging of Contract time begins 10 days after the Notice to Proceed. In general, calendar completion dates, working days, or some combination of the two are used to govern construction schedules for progress and completion. Most projects are governed by calendar completion dates. The Project Engineer/Supervisor must maintain complete and accurate records of the current controlling operation and working days because consideration of contract time extensions and calculations of liquidated damages are based on these factors. See Section 105.3 for additional information.

108.2.3 Current Controlling Operation

The current controlling operation is defined as that item or key feature of work that must proceed to prevent delaying the completion of the project. The determination of the current controlling operation must be based on the job conditions and on answers to the following questions:

1. What one item or combination of items is making the job move forward to completion? and

2. To what item or group of items are other items incidental at the time, insofar as overall project progress is concerned?

Controlling operations are determined by the Contractor's method of procedure. Each Contractor is responsible for sequencing and scheduling operations to meet the requirements of the Contract. The determination of a particular controlling operation at a specific time can usually be made by comparing actual progress with proposed or scheduled progress for the period in accordance with the following general principles:

1. One of the key features of the work proposed, scheduled, or in progress will be the controlling operation.

2. It is assumed that the Contractor must maintain the progress of all key operations to meet the time requirements of the Contract. Hence, if one operation is greatly behind at a particular time, the operation is likely to be controlling.

3. If two operations are behind and one is significantly more than the other, the operation that is farther behind will probably be controlling.

4. If two operations are behind and substantially equal in percentage of completion, both may be considered together as controlling.

5. If one operation is behind but has no effect on the completion of the project, the operation should not be considered controlling. For example, if clearing and grubbing is 80% complete, instead of 100%, and disposal of debris is all that remains, the clearing and grubbing operation is probably not controlling.

6. If one operation is ahead and another is meeting progress requirements, the operation that is meeting the Contract's progress requirements is controlling.

7. A controlling operation could be a minor item of work.

The Project Engineer/Supervisor and the Project Inspectors should monitor and record the current controlling operation on the Daily Reports.

108.2.4 Determination of Working Days

A working day will be considered as every day shown on the calendar, exclusive of Saturdays, Sundays, and Holidays, as set forth in the Contract, on which weather and other conditions

not under the control of the Contractor will permit construction operations to proceed for a minimum of five (5) hours with normal working forces engaged in performing the controlling item or items of work. It is mandatory that the Project Engineer/Supervisor determines the chargeability of each day and record working day status in the SDR. The current controlling operation will be determined based on conditions that exist on the day under consideration (see Section 108.2.3). The determination of a working day will be based on the following:

1. current controlling operation;

2. weather conditions;

3. Inspector's Daily Report;

4. progress in relation to actual operations;

5. utilization of normal complement of labor and equipment in the controlling operation; and

6. any delays occurring and the cause, for example:

    a. Weather. Consideration must be given to the prevailing weather on the day in question, particularly as to how it affects the controlling operation. For instance, if the weather is below freezing and the controlling operation is unclassified excavation, which at the time is entirely rock work, then a working day should be charged.

    b. Site Conditions. To consider a day as a working day, there must be substantial progress toward completion of the project. Although weather on a particular day may have been suitable for work and the Contractor's full crew performed work the entire day, progress may not have been made toward completion of the project. For example, if the controlling operation is placing subbase and the grade is too wet from heavy rain on the preceding day, the Contractor's men may spend most of the day rebuilding haul roads and removing saturated material from the top of fills. In this example, the day should be classified as a non-working day. On the other hand, it may be necessary to charge a working day even though weather conditions may be unsuitable for some work items. If, for example, the grade is too wet to use earth moving equipment and the current controlling operation is bridge construction, the Contract can proceed with the controlling item of work. In this example, a working day should be charged.

    c. Progress. Consider progress when determining a working day. For example, assuming that structures are approximately 15% behind (i.e., controlling) and other project operations are meeting progress requirements, the following deductions can be considered:

        Case 1: Some conditions, such as high water, will prevent the Contractor from working on the structure. In this example, a non-working day should be charged.

        Case 2: If light rain halts roadway excavation due to slippery haul road conditions but the Contractor is able to proceed with the work on the structure, a working day should be charged.

        In these examples, the determination of a working day is because the structure work is seriously behind and, therefore, the controlling operation.

    d. Normal Labor and Equipment. The site conditions and weather must be suitable to reasonably allow the Contractor to utilize his normal complement of labor and equipment. For example, if grading,

drainage, and structure items are well balanced in terms of progress with no discernable controlling item, the determination between working and non-working days should be made because of the total normal labor and equipment force for the combined structure and roadway excavation items.

e. Delays. A non-working day may be charged for some types of delays (e.g., strikes, failure of utility company to complete work on time, right-of-way not available, DOH delays approving a Change Order). Such decisions are only justified, as specified in the Contract, if the delay prevents the Contractor from proceeding with the current controlling operation, and the Contractor has used every reasonable means to remove the cause of the delay.

108.2.5 Suspension of Work

Although not desirable, it may be necessary to suspend construction operations due to factors beyond the control of the Contractor. In such cases, the Project Engineer/Supervisor is responsible for documenting suspension and resumption dates on the SDR. The Contract Administration Division should be promptly notified of the suspension date, including the probable duration of inactivity for major or high-profile projects.

108.2.6 Unsatisfactory Progress

If unsatisfactory progress is evident or anticipated, the Project Engineer/Supervisor will notify the Contractor in writing as discussed in Section 105.3 of the **Construction Manual**. If the Contractor fails to take corrective action, immediately inform the District Construction Engineer of the situation.

Section 109

MEASUREMENT AND PAYMENT

Section 109 of the **Standard Specifications** establishes the responsibilities for measurement and payment. The following Section presents specific DOH procedures and additional clarifying information.

109.1 MEASUREMENT OF QUANTITIES

For each item of work, the Specifications include a section on method of measurement that specifies how the item will be measured for payment. It is important to meet these requirements for measurement of quantities as specified.

109.1.1 Measurement by Volume

In the event that needed Plan cross sections are not available, the Project Engineer/Supervisor should obtain cross sections of the original ground, both in cut and fill areas and in borrow locations, before any earthmoving is begun by the Contractor. These cross sections will be used for measurement of quantities.

Any change from Specifications in method of measurement must be covered by a change order, and any conversion factor or rebates must be included in the change order.

109.1.2 Measurement by Weight

For uniformity, the following instructions must be observed when materials are paid for by scale weights:

1. The Contractor shall have the scales inspected and sealed by the State Bureau of Weights and Measures.
2. Scale platforms and working parts shall be clean at all times.
3. Weighers shall make continuing examinations of the scale platform to be certain there is clearance between the scale platform and foundation.
4. The zero balance shall be tested, and adjusted if necessary, at least once each hour when trucks are being weighed.
5. The operator's weight should be included in or excluded from each weight taken, and the practice should be uniform throughout the project for all operators.
6. Weighers shall be sure that the entire vehicle being weighed is on the scale platform.
7. If a scale appears to be functioning improperly, the Project Engineer/Supervisor should request a recheck of the scale. Reinspection and recertification may become necessary should discrepancies arise.
8. If the load in a vehicle must be trimmed to prevent spillage on streets or highways, the trimming must be done before the load is weighed.
9. The capacity of the scale should not be exceeded. If there is any doubt, the Bureau of Weights and Measures should be consulted to determine the limitations.

109.1.3 Units of Measurement

Contract specifications and documents that contain dual units of measurement are published with the English unit first followed by the metric unit in parentheses. Use the unit of measurement specified for the project. Do not attempt to use one unit of measurement for convenience by converting the other.

109.2 PAYMENT

For each item of work, payment will be made as prescribed under "Basis of Payment" and "Pay Items" of the governing contract specifications. Periodic payments will be made in accordance with procedures described in Section 112.

109.2.1 Material Delivered Not In-Place (MDNIP)

109.2.1.1 Documentation Requirements

Partial payment for material on hand may be made to the extent of the delivered costs of material to be incorporated into the work, provided that the material meets the requirements of the Contract Plans and Specifications when delivered in the vicinity of the project site or stored at approved off-site locations. Prior to payment for MDNIP, the Contractor must make a written request to the Division specifying the material for which payment is requested. The request, dependent upon the delivery and/or storage location of the material, must include the following information:

1. Project Site Storage. The following must accompany the request for materials delivered and/or stored in the vicinity of the project site:

    a. Supplier Invoice. A copy of an invoice from the supplier showing actual delivered cost of the MDNIP. Approved MDNIP payments will not exceed the bid price of the Contract item into which the material will be incorporated OR the actual cost to the Contractor.

    b. Proof of Compliance. Proof of compliance with the contract specifications applicable to the MDNIP must be provided. Approval for payment of MDNIP will only be given with the understanding that DOH reserves the right to reject and require placement of any such material which is found to be damaged, defective, or not in conformance with the contract specifications. See Section 106.1 for additional information.

2. Off-Site Storage. The following must accompany the request for materials delivered and/or stored at approved off-site locations:

    a. Supplier Invoice. A copy of an invoice from the supplier showing actual delivered cost of the MDNIP. Approved MDNIP payments will exceed neither the bid price of the Contract item into which the material is to be incorporated nor the actual cost to the Contractor.

    b. Proof of Compliance. Proof of compliance with the contract specifications applicable to the MDNIP must be provided. Normally proof of compliance is a Laboratory Number. Approval for payment of MDNIP will only be given with the understanding that DOH reserves the right to reject and require placement of any such material which is found to be damaged, defective, or not in conformance with the contract specifications. See Section 106.1 for additional information.

    c. Statement of Rationale. A statement indicating why the MDNIP cannot be stockpiled near the project site must be included. If it is determined that, because of required fabrication at on off-site location, the materials cannot be stockpiled in the vicinity of the job site, the Division may, at its discretion, allow partial payment. Materials that will be considered for payment at off-site locations will generally include, but not be limited to, structural steel, reinforcing steel, fabricated signs, pumping equipment, specialty items for waterline or tunnels, etc.

    d. Statement of Condition/Location. A statement of the condition and place of storage of the MDNIP must be included.

If the material is stored on property owned by the supplier, the supplier should submit a notarized affidavit attesting to ownership of the property. If the material is stored on property not owned by the supplier, a copy of the agreement between the owner of the area and the supplier should be furnished. If the agreement is specifically for storing material, the lease should state this and a brief legal description of the property should be included. The lease should cover the period required for the storage or until completion of the project.

e. Right-of-Way Entry. A right-of-way entry, for a DOH employee or agent, to the storage areas must be provided for the purpose of inspecting, sampling, testing, and/or the removal of any or all of the MDNIP.

f. Bonding Letter. A letter from the bonding company must be provided agreeing to the advance payment for the MDNIP at the designated location.

g. Certification of Ownership. A certification must be provided indicating that the MDNIP being stored bears identification as property of the WVDOT, Division of Highways, and that the material will not be sold or used on a project for which it is not designated.

h. Estimate of Transport. An estimate of the cost of transporting the MDNIP from the off-site location to the project site must be provided if the invoice submitted in Item a. includes transportation costs. Approved MDNIP payments must exclude the cost of transporting the material from the off-site storage location to the project site.

109.2.1.2 Review and Approval

All requests by the Contractor for payment of MDNIP must be submitted to the District Construction Engineer for review and evaluation. For MDNIP stored at approved off-site locations, the District Construction Engineer's review must include a discussion with the Contract Administration Division. Approval will be documented by Record of Contact in the PRS and the signed acceptance of the Record of Contact by Contract Administration Division, prior to payment on the voucher estimate. The Record of Contact will reference the Storage or release laboratory number in the body of the text. To obtain the referenced laboratory number for Bridge Structural Items (Steel or Concrete) the following must occur.

1. The fabricator must provide to our inspection representative a copy of all information, as applicable to him (fabricator), required in Section 109.2.1 and Section 109 of the Standard Specifications. If the information is found to be correct, each invoice and attachment, excluding mill test reports and other documentation used for inspection purposes, will be signed by our representative. In addition the final summary letter from the fabricator to the Contractor will also be signed by our representative.

2. That package will be forwarded by our representative to Materials Control, Soil and Testing Division for their review. If the product is in compliance a storage laboratory number will be assigned to the material and referenced on the fabricator's request for payment which will signify the product has been fabricated, inspected, and found to comply with specification but the laboratory number will not indicate pass or fail since the material is not being shipped. If MCS&T Division finds any problem(s) they will notify the fabricator, District, and Contract Administration Division.

3. The fabricator will forward a copy of all information to the contractor who will obtain the other information required in Section 109.2 of this manual and Section 109.2 of the Standard Specifications and request the District process payment for the material in accordance with these same procedures.

4. The District through their Materials Section will forward a copy of the Contractor's submission to MCS&T Division for comparison to that submitted by the fabricator through our plant inspector. If initial review indicates compliance with specifications and the District's submissions agree in content with that from the fabricator, MCS&T Division will sign the Contractor's cover letter indicating agreement and promptly return it to the District for processing.

5. Upon MCS&T Division finding the material acceptable for payment all supporting data will be attached to the Record of Contact and submitted to Contract Administration Division for review. If the Record of Contact is approved payment can be processed in accordance with section 109.2.1.3 of this manual.

109.2.1.3 Payment Processing

Approved requests will be included for payment by invoice number on current voucher estimates. For MDNIP stored near the project site, a copy of the invoice(s), with appropriate release laboratory number(s), from the supplier showing actual cost of the MDNIP must accompany each copy of the initial voucher estimate on which the delivered material is paid. For MDNIP stored at approved off-site locations, a copy of the approved Record of Contact must accompany each copy of the initial voucher estimate on which the delivered material is paid.

If any portion of the material that has previously been paid as MDNIP on a voucher estimate is incorporated into a Contract item, that portion of the material must be deducted from the MDNIP quantity prior to payment of the related Contract work at the Contract unit price.

The Contractor must furnish a certified paid invoice from the supplier within ninety (90) calendar days of the ending date for the period of the initial estimate on which the delivered materials was paid. A certified paid invoice from the supplier refers to an invoice bearing an explicit certification statement signed by a representative of the vendor originating the invoice for delivered material. All certified paid invoices will be marked paid as required and submitted to the District Construction Engineer.

If a certified paid invoice from the supplier is not received within ninety (90) calendar days of the ending date of the period for the initial estimate on which the delivered material was paid, payment for all remaining MDNIP on the voucher estimate by that supplier's invoice will be deleted on the next eligible voucher estimate.

When the material is ready for actual shipment to the project it will be re-inspected and if still found satisfactory, the Division's inspectors will assign a release laboratory number which shall be referenced on the shipping documents that accompany the structure to the project. If they find the material has been damaged or changed they will notify the District and this Division.

109.2.2 Specialized and Technical Equipment

Some Contracts require the Contractor to furnish expensive office or field equipment for use by DOH personnel (e.g., computers and peripherals, two-way radios, copying machines, survey equipment). Specialized equipment is paid as part of the lump sum bid price for pay items such as building equipment and construction layout stakes. Consider the following guidelines when processing payment for specialized equipment not otherwise provided for under Section 640 of the **Standard Specifications**:

1. Voucher Estimates/Payment. After the equipment is delivered, installed, and made available for DOH use, the purchase price of the equipment will be added to the next estimate. Check to ensure that sufficient funds remain in the appropriate bid item to cover maintenance obligations (see Item 3). Payment will be made by entering a percentage of the lump sum bid amount equivalent to the purchase price of the equipment in the current column of the estimate. The remaining balance of the lump sum bid amount must be pro-rated over the life of the Contract.

2. Ownership. If the Contract states that the equipment will become the property of the DOH after project completion, the appropriate inventory documents must be processed to move the equipment into the District inventory.

3. Maintenance. Maintenance will be as defined in the Contract.

109.2.3 Load Limit Violations

109.2.3.1 Purpose

Section 109.2.3 clarifies the intent of Section 109.20 of the **Standard Specifications** and establishes a uniform inspection procedure for the operation of overweight vehicles on public highways in connection with DOH Contracts.

109.2.3.2 Application of Specification

Consider the following when administering Section 109.20 of the **Standard Specifications**:

1. Commercial Sources/Batch Plants. The Specification applies to any vehicle or combination of vehicles operated on publicly maintained highways that haul materials from a commercial source or batch plant under the terms of the Contract. A commercial source is any location from which materials are shipped to other customers, either public or private. Except for aggregates that are stockpiled for use on DOH projects, the Specification does not apply to materials being hauled into a batch plant for production of PCC, asphalt concrete, or free-draining bases.

2. Continuous Mix Concrete Units. The Specification does not apply to continuous mix concrete units where trucks are charged at or near the project site from non-commercial stockpiles established for DOH continuous mix projects. The term "near," in this context, means within 10 mi (16 km) on public highways from the project site.

3. Aggregates. The Specification applies to the hauling of aggregate from a commercial source to Contractor stockpiles or if the stockpiles are located at batch plants. The Specification states that weigh tickets are required for all aggregates regardless of the contract pay item. In this situation, assuming the basis of payment is not by weight, no weigh ticket will be required when the material is moved from the stockpile to the project. If the aggregate material is stockpiled outside the project and sold to other customers, the stockpile could become a commercial source. In this case, the Specification would not apply. However, if the stockpile is considered a commercial source, the supplier will be required to have scales, and weigh tickets will be required when the aggregate is moved from the stockpile to the project site. If the material is hauled from a commercial source to a stockpile within the project limits, the Specification will apply. In this situation, assuming the basis of payment is not by weight, no weigh ticket will be required when the material is moved from the stockpile to the point of use within the project.

4. Documentation. Any material delivered from a commercial source or batch plant without the documentation necessary to determine the gross weight of the haul vehicle or combination of vehicles as discussed in Section 109.2.3.5 will not be accepted by DOH.

5. Common Carriers. If material is delivered by common carrier where only a portion of the load is unloaded at the project and the remainder is destined for other customers, the Specification does not apply. The rationale behind this determination is that DOH would not know which customer(s) would be responsible for any load limit violation. The common carrier waiver does not apply when the load is split among two or more DOH Contracts or when the entire load is being delivered to the project.

6. Off-Site Stockpile. If material is hauled from a commercial source to a stockpile outside the project limits that is exclusively for use on DOH project(s), the Specification applies and weigh tickets are required. However, tickets are not required for delivery from the stockpile to the project.

109.2.3.3 Motor Vehicle Laws

In administering the Contract, only the gross vehicle weight will be monitored. However, this does not relieve any party from conforming to all provisions of the West Virginia Motor Vehicle Laws pertaining to vehicle weight including, but not limited to, load restrictions posted for specific bridges and sections of highway and axle loads. When haul vehicles are not subject to this Specification, and the Project Inspector has reason to believe that load limit violations are occurring, the following procedure will be utilized:

1. Warn the Contractor that the contract specifications require compliance with all legal load restrictions in the hauling of material on public roads and document this notification in the IDR.

2. If apparent load limit violations continue, advise the District Construction Engineer. Give specific data such as route number, location, nearest community or landmark, bridge name or number (if applicable), type of material, date of occurrence, and date notification was given to Contractor.

109.2.3.4 Use of Adjustable Wheels

If a truck has a set of adjustable wheels that can be lowered to help distribute the load, the truck will be considered as having an additional axle. If the hauler takes advantage of the adjustable wheels in determining the maximum gross vehicle weight allowed, the hauler is expected to use these wheels while transporting materials to the project. However, due to turning restrictions and other considerations, it is permissible to raise the adjustable wheels once the truck reaches the project site.

109.2.3.5 Weigh Tickets

Documentation of the gross weight of the haul vehicle or combination of vehicles will be provided by the Contractor, shipper, or hauler for each load of material delivered from a commercial source or batch plant. The documentation will be provided to the Project Inspector at the project site or DOH facility in one of the following forms:

1. Gross Weight. A weigh ticket documenting the gross weight, number of axles, and license number(s) of the vehicle or combination of vehicles, date of weighing, item number or description of materials, and signature of the weigher certifying the ticket is correct. If the weigher's name is printed by the computer on the ticket, then it only needs to be initialed by the weigher.

2. Tare Weight. A weigh ticket documenting the tare weight, number of axles, and license number(s) of the vehicle or combination of vehicles, date of weighing, and signature of the weigher certifying the ticket is correct (or initialed if ticket has name printed on it), plus calculations furnished by the supplier to substantiate the weight of the material. The documented gross weight will then be computed by adding the tare weight and the weight of the material. When batch scales are used to determine the load placed on a truck, DOH will annually determine an allowable net weight by subtracting the tare weight as determined from the allowable gross weight of the hauling unit. A master list may be used and submitted to document the allowable net weights for a fleet of hauling units.

This requirement does not relieve the Contractor from supplying weigh tickets required by other Specifications; however, the information above may be provided on those weigh tickets otherwise required. DOH does not desire to create an undue burden on the industry when it

is obvious to all parties that trucks are not overweight. The DOH Project Engineer/ Supervisor may waive the weigh ticket requirement with proper detailed documentation under either of the following conditions:

1. Low Unit Weight. The material being delivered has a low unit weight such as corrugated metal pipe and end sections; plastic pipe for drainage, waterlines, and sewer lines; matting for erosion control; traffic safety devices (excluding precast concrete barriers); preformed joint materials; traffic signs; and delineators.

2. High Unit Weight/Few Items. The material has a higher unit weight with only a few items being delivered, and it is obvious to all parties that the truck is not overloaded by weight and is only a partial load (i.e., volumetrically the truck will accommodate more materials).

109.2.3.6 Truck Identification Numbers

In lieu of the license number required in the Specification, the weigh ticket may contain a truck identification number followed by the number of axles (e.g., WB25-4). The truck identification number will be permanently marked in a highly visible location on the truck.

109.2.3.7 Price Adjustment

The phrase "load limit violation" will mean a vehicle or combination of vehicles with a documented gross weight in excess of the allowable gross weight for the vehicle type contained in the Specification or in excess of the Maximum Legal Gross Weight evidenced by a certificate from the DOH Enforcement Division. A contract price adjustment will be assessed for each load limit violation. The price adjustment will be calculated at the rate(s) in the Standard Specifications (Section 109.20) under which the project was awarded for each ton or MG, in excess of the allowable gross weight for the vehicle type contained in the Specification, or in excess of the maximum legal gross weight evidenced by a certificate from the DOH Enforcement Division for that vehicle, except that no adjustment will be assessed if the excess amount is less than 500 lbs (225 kg).

109.2.3.8 Project Records

Each load limit violation will be recorded by the Project Inspector on the IDR specifically noting the following information for each violation:

1. date of violation;
2. item number or description of material;
3. ticket number;
4. documented gross weight;
5. allowable gross weight;
6. weight in violation; and
7. computed monetary price adjustment.

The Project Engineer/Supervisor will review and verify the IDR and load limit violation attachment and summarize all load limit violations on a worksheet to be attached to the voucher estimate.

109.2.3.9 Preparation of Estimates

Contract price adjustments for load limit violations will be deducted from the first voucher estimate following discovery of the violation. The deduction will be made using current procedures for Contract Price Adjustments and will not require the preparation of a Change Order.

109.2.4 Purchase of Unused Material

109.2.4.1 Application of Specifications

The purchase of unused materials may be either due to DOH eliminating items in the Contract or a reduction of work quantities. The following Specifications apply to the purchase of unused materials:

1. Eliminated Items. In accordance with Subsection 109.5 of the **Standard Specifications**, the Division agrees to compensate

the Contractor for the reasonable expense incurred prior to the Notification of Eliminated Item from DOH and to assume at actual cost any unused material purchased in good faith for use for the eliminated item(s). The Specification only addresses unused material derived from eliminated items of work. The remaining parts of Section 109.2.4 provide additional guidance.

2. Decreased Work Quantities. The Specification will not be applied to unused material derived from decreased quantities of work. Section 109.3 of the **Standard Specifications** applies if the decrease in quantity meets the criteria for a "significant change." Under this situation, payment for any resultant unused material will be evaluated in accordance with Subsection 104.11 of the **Standard Specifications**.

109.2.4.2 Preferred Disposition

The following alternatives (listed in order of preference) should be pursued in the disposition of unused material derived from eliminated items:

1. Contractor retains ownership of the material for use on other work without additional compensation from DOH.

2. Contractor returns the material to the supplier for restocking with additional compensation by DOH for any restocking charge.

3. DOH purchases the material and incorporates it into inventory through processes outlined in the DOH **Administrative Operating Procedures**, Volume 5, Chapter 13.

109.2.4.3 Disposition of Inventory Purchased by the Division

If the unused material is incorporated into Division inventory, one of the following alternatives should be specified (with the Change Order document) to define the intended use of the unused material (for accounting purposes):

1. Federal-Aid Projects. The unused material is mandated for use on a subsequent Federal-Aid project(s) through Contract Provisions added to the subsequent project(s) by the Engineering Division. This alternative requires a coordinated effort between the District Construction Engineer, the Contract Administration Division, the Engineering Division and FHWA.

2. DOH Maintenance. The unused material is placed into inventory for use by the maintenance forces.

109.2.4.4 Restocking Considerations

When disposition of unused material is required, consideration will be given to ensure that the cost of the operation (i.e., restocking or placement in Division inventory) does not exceed the value of the material.

109.2.4.5 Change Orders

Any payment to the Contractor for unused material must be made through a Change Order which, when fully executed, is included on a Voucher Estimate. The Change Order must be prepared in accordance with Section 110 and must reflect the Contract reduction associated with the eliminated item(s).

109.2.4.6 FHWA Participation

On all Federal-Aid projects, the status of Federal-Aid participation must be indicated for each Contract modification included on the Change Order. The Federal-Aid Policy Guide (non-regulatory supplement dated September 30, 1992) indicates that FHWA will participate in

the purchase of unused material under the following circumstances:

1. the salvaged item has a value less then $5,000;

2. the salvaged item becomes the Contractor's property through the Contract Provision; or

3. the salvaged item will be reused in future projects eligible under Title 23 USC until its useful life is expended.

109.2.4.7 DOH-5

The status of Federal-Aid participation also determines the unit cost entered on the DOH-5 which must be an attachment to the Change Order. FHWA participation (under any one of the above circumstances) means that the cost of the unused material reflected on the DOH-5 should be only the DOH share of the total amount paid to the Contractor on the Voucher Estimate. Otherwise, if the purchase of unused material is considered ineligible for Federal-Aid participation (does not meet any one of the above circumstances), the cost of the material reflected on the DOH-5 should be the total amount paid to the Contractor on the Voucher Estimate.

109.2.5 Railroads and Utilities

The railroad or utility company may submit partial invoices for actual costs incurred up to, but not exceeding, the amount of the approved agreement(s) less any credits due DOH.

Final invoices are required within six (6) months after all chargeable work covered by the approved agreement(s) has been completed. Final invoices will be paid upon receipt of a final Audit Certification when the total costs do not exceed 110% of the amount of the approved agreement(s). In addition to a final Audit Certification, a Supplemental Agreement or Revised Agreement will also be required when total costs exceed 110% of the amount of the approved agreement(s). For further details, refer to Section 107.8 Railway-Highway Provisions of the **Standard Specifications.**

109.2.6 Method of Payment for Items Paid as Each

When multiple units in one item are to be paid as each and the contractor has several units substantially completed but none totally finished the Project Engineer/Supervisor may determine the approximate percentage completed and pay for a equivalent number of units (Each) on the next current voucher estimate.

Section 110

RECORD OF CONTACT AND CHANGE ORDERS

Section 110 presents DOH policies and procedures on documenting, preparing, and processing Records of Contact and Change Orders. Adherence to these procedures will ensure that agreements on the scope, necessity, and basis of payment for all modifications and extra work are properly documented. See Section 105.6.7 for information on how the Project Records System (PRS) is used to prepare and process Records of Contact and Change Orders.

110.1 GENERAL

110.1.1 Legal Basis

The Division reserves the right to make any necessary alterations to the Contract Plans and Specifications or to the quantities of work provided they are within the scope of the original Contract. Although the Specifications provide for changes in quantities and performance of unforeseen work for which there is no price included in the Contract, Federal and State laws specifically require that no work be performed unless funds have been properly authorized for payment. The District will not pay the Contractor for extra work until the District receives a Supplemental Authorization. The guidelines for preparing Supplemental Authorizations are contained in Volume II, Chapter 14 of the DOH **Accounting Manual**.

110.1.2 Overview of Purpose

It is impractical to specify in Contract documents exact quantities of labor, materials, and equipment. Therefore, procedures have been established for necessary changes for modifications and extra work through Records of Contact and Change Orders. Consider the following:

1. Record of Contact. The Record of Contact will document the decisions and agreements made between the DOH Project, District, and Division personnel and the Contractor on the scope, necessity, and basis of payment. Although a Record of Contact may be required, a Change Order may not. See Section 110.2 for information on Records of Contact.

2. Change Order. A Change Order authorizes an increase, decrease, addition, or deletion of an item(s) or adds prices not included in the original Proposal. These documents are normally developed in cooperation with the Contractor, the Division, and FHWA, as applicable, and reflect all changed items that would affect Contract costs and the completion date. See Section 110.3 for information on Change Orders.

3. Contract Time. Any additional time required due to a Change Order will be documented on its corresponding Record of Contact and will be considered for a Contract Time Extension (see Section 105.3).

110.1.3 Types of Change Orders

A Change Order is a general term referring to either a Supplemental Agreement or an LME Force Account Work Order. These terms are defined in Section 101 of the **Standard Specifications**. Each type is used for a different purpose and is based primarily on the extent and nature of the changed condition as follows:

1. Supplemental Agreement. A Supplemental Agreement is a type of Change Order initiated by a Record of Contact used for the following purposes:

a. to provide a unit price for items not included in the original Proposal;

b. if major Contract items require a change in quantity in excess of 25% of the original and there is a demonstrable change in cost to the Contractor;

c. if the total Contract amount changes in excess of ±25% and there is a demonstrable change in unit costs to the Contractor;

d. if there is an addition, deletion, or revision of the contract specifications; and/or

e. if any item is non-performed.

2. LME Force Account Work Order. An LME Force Account Work Order will be initiated by a Record of Contact and used only when it is necessary to accomplish work not describable by the contract specifications but most effectively described by hours of Labor, the furnishing of Material, and hours of Equipment use, plus a percentage as detailed in the **Standard Specifications**. The Project Engineer/Supervisor must exercise strict controls and detailed records to administer this type of Change Order. Section 109.4 of the **Standard Specifications** specifies the provisions. See Section 110.3.3 for additional information.

110.1.4 Project Records System

The Records of Contract and Change Orders, if required, must be prepared and processed as described in Sections 110.2 and 110.3. PRS is used to generate Change Orders, either Supplemental Agreements or LME Force Account Work Orders. See Section 105.6.7 for additional information on PRS and Change Orders.

110.2 RECORD OF CONTACT

110.2.1 Need

If a condition warrants a contract modification or extra work, the Project Engineer/Supervisor will immediately notify the District Construction Engineer before taking further action. District personnel will notify the Contract Administration Division. All proposed Contract modifications and extra work require a Record of Contact.

Records of Contact are required on non-exempt Federal-Aid projects under either of the following two conditions:

1. Major Changes/Extra Work. On non-exempt and concurrence Federal-aid projects, FHWA must provide advance written approval of all major changes or major extra work in the Contract Plans and Specifications except, when emergency or unusual conditions warrant, FHWA may provide advance verbal approval with subsequent binding written concurrence. A major change or major extra work is defined as a project change or extra work that would significantly affect the cost to the Federal Government or alter the termini, character, or scope of the work. See Section 110.3.2.1 for types of modifications that represent major changes and major extra work including required documentation.

2. Minor Changes/Extra Work. On non-exempt and concurrence Federal-aid projects, FHWA must approve all minor changes and minor extra work. This includes modifications in construction items within the scope of the Contract Plans and Specifications when such modifications are required during the normal progress of construction. Approval may be given retroactively at the discretion of FHWA.

110.2.2 Preparation

The Project Engineer/Supervisor is responsible for preparing Records of Contact and for employing the requisite features of PRS. See Section 105.6.7. The following discusses documentation requirements.

110.2.2.1 Contacts

On the Record of Contact, list the name and organization of all District, Division, and FHWA personnel contacted relative to the proposed modification or extra work. On non-exempt and concurrence Federal-aid projects, the Record of Contact must document agreements by FHWA personnel.

110.2.2.2 Items, Quantities, Unit Prices

List each item of work entailed by the proposed modification or extra work, the estimated quantity, and the agreed unit price. Also list any Contract item underrun(s) resulting from the proposed modification or extra work (e.g., payment of material taken into Division inventory should include a decrease in the planned items of work that caused the unused material).

110.2.2.3 Location and Necessity of Work

List the following related to the location and necessity of work on the Record of Contact:

1. Location. Indicate stations with applicable baseline and offset notations for each item of work entailed by the proposed modification or extra work. Modifications or extra work, resulting from revision of the planned project termini, require evidence that the Contract Administration Division has been advised of the revision.

2. Necessity. Indicate the reason in sufficient detail to assure the District Construction Engineer that the proposed modification or extra work is necessary.

3. Federal-Aid Reimbursement. Include the status of eligibility for Federal-aid reimbursement for each Contract modification. The following options are available:

   a. eligible for Federal funds pending submission and evaluation of cost data;

   b. partially eligible for Federal funds pending submission and evaluation of cost data;

   c. ineligible for Federal funds; or

   d. other (explain).

   On exempt Federal-aid projects, the eligibility for Federal-aid reimbursement indicated for each Contract modification will follow FHWA policy.

4. Contract Time Evaluation Method. Include the method of Contract time evaluation for each Contract modification. The following options are available for each Contract modification:

   a. additional working days to the Contract time allowance are not applicable; or

   b. additional working days to the Contract item allowance will be granted on the basis of the actual working days charged for performing the work under the agreement provided the work is judged to be the controlling operation.

   See Section 105 for additional information on documenting Contract time extensions.

110.2.2.4 Justification of Quantities

The documentation required to substantiate estimated quantities is dependent upon the method of measurement of the proposed modification or extra work. Consider the following guidelines:

1. Area or Volume Measurement. Include calculations to substantiate added, increased or decreased quantities. A sketch or drawing is often necessary to show the details of the proposed modification or extra work. As applicable, include the following additional information:

a. Proposal Quantity Items. Calculations must contain signatures, not just initials, of District Office and project personnel verifying the accuracy of dimensions, computation method and resultant quantity. Detailed drawings must accompany the calculations.

b. Unclassified Excavation/Borrow Items. Calculations must include a volume breakdown station by station.

2. Linear Measurement. Include data such as stationing and applicable baseline and offset notations, top and bottom elevations, bar details, etc.

3. Weight Measurement. Include data such as stationing, average widths and depth, typical sections, application rates, conversion factors, etc. As-built quantities require notation that properly executed tickets are in the project file.

4. Unit Measurement. Include data such as stationing and applicable baseline and offset notations for each unit.

5. Lump Sum Measurement. The following documentation requirements will apply to lump sum measurements:

a. Contract Item Revision. Include calculations based upon proposal bid amount, plan quantity, and the proposed extra or deducted quantity to substantiate the proposed payment or deduction.

b. LME Basis. Include reason for performance of work on an LME Force Account Work basis in addition to applicable LME records. Use LME Force Account Work procedures to establish the method of measurement for contract modifications or extra work only when necessary. Possible reasons for the performance of work on an LME Force Account Work basis are:

i. negotiations with the Contractor fail to produce agreement on the price of a new work item;

ii. the extent of work is unknown; and/or

iii. the work is of such character that determination of a reasonably accurate price is not achievable.

6. Revised Method of Measurement. This applies to such situations as "original versus in-place" and "volume versus weight." Include data to substantiate that applicable shrink/swell or other conversion factors are representative of the applicable material and verification of the Contractor's agreement with the factors. Revision of the method of measurement from volume to weight also revises the type of payment documentation required from calculations to properly executed weigh tickets. However, the material and construction method documentation required to substantiate compliance with the original Contract Plans and Specifications remains unchanged.

7. Inventoried Material. For payment for material incorporated into DOH inventory, include a copy of an executed DOH-5 documenting that the material was received by DOH and invoices showing the Contractor's actual cost of the material. Payment of this type should include a decrease in the planned item(s) of work that caused the unused material. See Section 109.2.4 for additional information.

110.2.2.5 Justification of Unit Prices

The documentation required to substantiate unit prices is dependent upon the type of action taken for each item of the proposed modification or extra work. Consider the following guidelines:

1. Adjustment at Unit Price. PRS defaults the necessary documentation when increasing or decreasing Contract item quantities at the unit bid price. Modifications or extra work

resulting in increased or decreased quantities of major contract items at unit bid price require evidence that the provisions set forth in Section 104.11 of the **Standard Specifications** were considered, if applicable.

2. Addition of Items. If items are added to the original Contract, include detailed provisions for material requirements, construction methods, method of measurement, and basis of payment for all added items not included in the contract specifications. Attach a copy of any written evidence submitted by the Contractor or prepared by DOH to support the unit prices. Include a cost analysis that verifies that unit prices for added items are reasonable. Examples of methods used to justify unit prices are as follows:

    a. verification of the accuracy of the cost breakdown submitted by the Contractor noting any special conditions;

    b. comparison with unit prices of similar Contract items noting any special conditions;

    c. comparison with average bid prices noting any special conditions;

    d. comparison with unit prices of same Contract items(s) on other projects (indicate project numbers) within the area or DOH prices on Purchase Order Contracts for similar work and/or materials noting any special conditions; and

    e. preparation of a cost breakdown for estimated labor, material, equipment, and administrative costs required to perform the work.

110.2.3 Review and Approval

Project personnel may not be fully aware of the nature or magnitude of the comments made by Division or FHWA personnel regarding the proposed modification or extra work. Therefore, the following procedures will apply for the review and approval of the Record of Contact:

1. The Project Engineer/Supervisor will submit a draft of the Record of Contact, including necessary attachments, to the District Construction Engineer for review, approval, and/or comments.

2. The District Area Engineer/Supervisor, District Construction Office Manager, and District Construction Engineer will review the Record of Contact, in a timely manner, for accuracy and compliance with established procedures.

3. The District Area Engineer/Supervisor will verify that the agreements reached and comments made by Division and FHWA personnel are accurately represented on the Record of Contact.

4. The District Construction Office Manager will verify that the Record of Contact complies with the documentation procedures noted in Section 110.2.2 including the verification of applicable calculations.

5. Upon receipt of the District's comments, the Project Engineer/Supervisor will make the necessary revisions and submit the revised Record of Contact to the District Construction Engineer for formal approval by the District Construction Engineer.

110.3 CHANGE ORDERS

Section 110.3 establishes DOH procedures for preparing and processing Change Orders. Adherence to these procedures will ensure that Change Orders are properly executed. Every Change Order must be initiated by a Record of Contact (see Section 110.2). See Section 105.6.7 for information on PRS processing of Records of Contact and Change Orders.

110.3.1 Need

All modifications or extra work require an approved Record of Contact, but the need for a Change Order depends on the type of modification or extra work. Modifications and extra work that are within the scope of the Contract generally occur during the normal progress of construction. Such modifications and extra work will be properly documented by a Record of Contact (see Section 110.2), but they will not require a Change Order. The Contract modifications and extra work that require the preparation and approval of a properly executed Change Order are as follows:

1. addition of items and/or unit prices not included in the original Contract including items of work performed on an LME Force Account Work basis;

2. revisions to Contract item quantities under either of the following two conditions:

   a. as needed to update the original funding authorized for contingencies; or
   b. as required in conjunction with approved Value Engineering Proposals;

3. revisions to the contract specifications and/or Plans that, in the opinion of the District Construction Engineer, will significantly change the cost or alter the termini, character, or scope of the work under the Contract. See Section 104.11 of the **Standard Specifications** for circumstances that constitute a significant change;

4. assessment of price reductions that were established by District Materials Reports and/or special evaluations by DOH; and

5. modifications that include a Contract time extension.

110.3.2 Processing and Approval

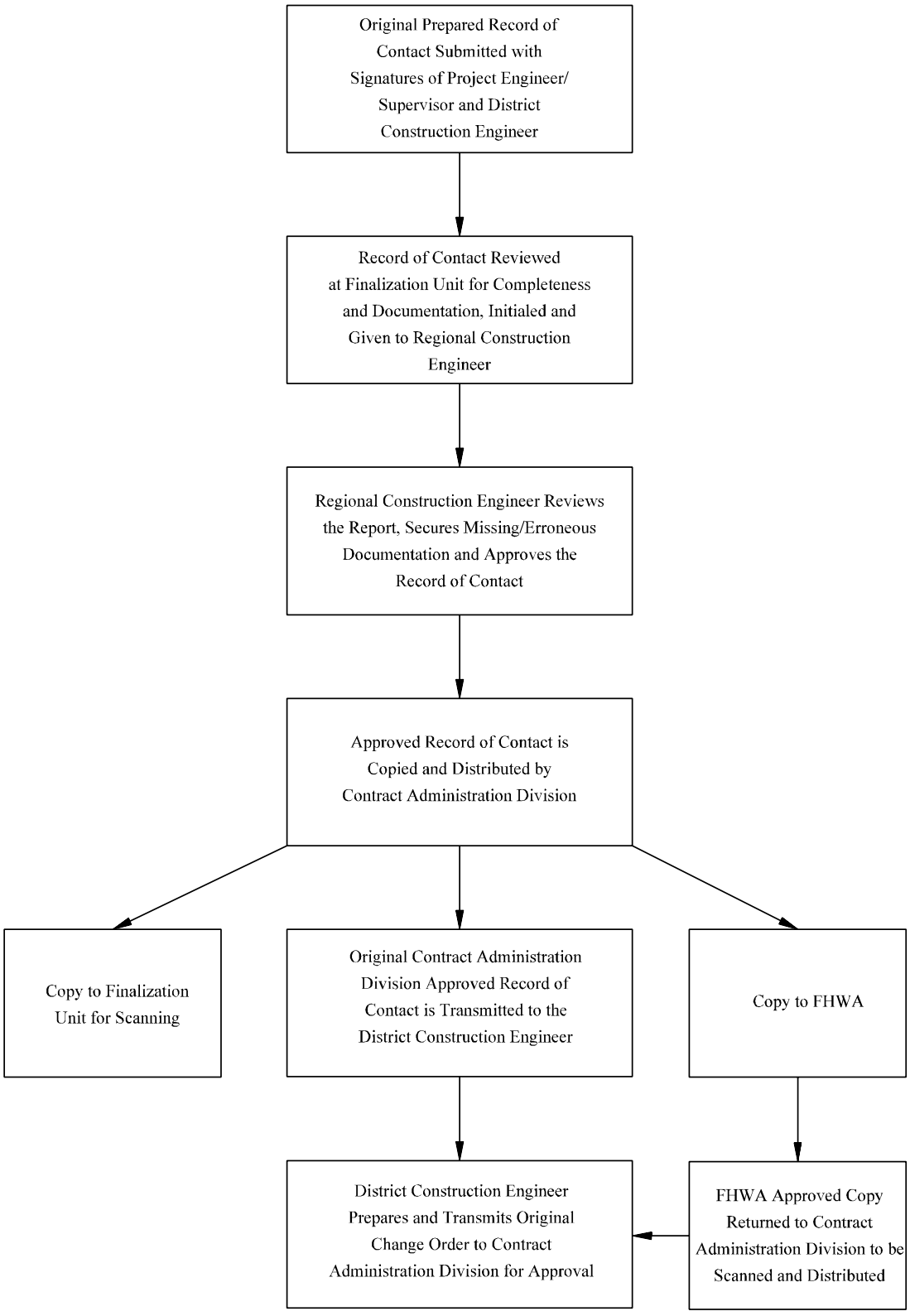
Figures 110A and 110B illustrate processing flowcharts for Records of Contact to initiate Change Orders for non-exempt Federal-aid projects and State funded and exempt Federal-aid projects. Section 110.3.2 presents further discussion on processing and approval procedures.

110.3.2.1 Non-Exempt Federal-Aid Projects

Modifications and extra work on non-exempt Federal-aid projects generally require prior written concurrence in the form of a Record of Contact and Change Order. However, there are exceptions as follows:

1. Emergency Conditions. In emergency situations or unusual conditions, it may be necessary to request advance verbal approval from FHWA with the intent that FHWA provide the Division with a subsequent binding written concurrence in the form of a Change Order for the modification or extra work. The basis of the verbal agreement will be acceptable rates, and the basis of the Change Order will be its corresponding Record of Contact.

2. Minor Changes/Extra Work. Retroactive formal FHWA approval with a Change Order is permissible for minor changes and Minor extra work on non-exempt Federal-aid projects. The basis of the Change Order will be its corresponding Record of Contact.



PROCESSING FLOWCHART FOR NON-EXEMPT FEDERAL-AID PROJECTS
Figure 110A

PROCESSING FLOWCHART FOR
STATE FUNDED AND EXEMPT FEDERAL-AID PROJECTS
Figure 110B

3. Major Changes/Extra Work. For the discussion that follows, major change or major extra work will be defined as a change that will significantly affect the cost of the project or alter the termini, character, or scope of the work. The following actions represent major changes or major extra work for which prior written approval from the Contract Administration Division with a Record of Contact and Change Order is required:

a. revision of design details (including standard details) pertaining to geometry, drainage, structures, excavation, embank-ment, signing, and safety appurtenances, or pavement (main roadway, ramps, frontage roads, cross roads, or detours);

b. revision of planned access control, project termini, right-of-way limits and/or easements;

c. revision of the **Standard Specifications**, Supplemental Specifications, and/or project specific Special Provisions, including any change in material type or quality;

d. revision of contract time resulting from contract changes or extra work;

e. LME Force Account Work, Value Engineering Proposals, and contract claim settlements; and

f. revision of the Contract value of any item by an amount greater than ±$12,500.

For major changes and major extra work on non-exempt Federal-aid projects, a Record of Contact and Change Order (i.e., prior written FHWA concurrence) is necessary to ensure consideration of Federal participation. Before commencement, a Record of Contact and Change Order must be executed to formally document agreement between the Division and FHWA in the following areas:

a. necessity of the proposed work;
b. scope of the proposed work; and
c. basis of payment.

For major changes and major extra work on non-exempt Federal-aid projects included in Items 1 and 2, two (2) copies of full-size revised plan sheets will be prepared by the appropriate DOH Division – Development and submitted to FHWA for approval prior to distribution. Subsequent to FHWA approval, one (1) copy of the full-size revised plan sheets will be delivered to the Contract Administration Division and seven (7) copies will be delivered to the District for distribution. Two (2) copies of half-sized revised plan sheets will be sent to FHWA, one (1) copy to the Contract Administration Division, and ten (10) copies to the District.

110.3.2.2 Exempt Federal-Aid and State Funded Projects

The following applies to the processing and approval of Records of Contact and Change Orders for all exempt Federal-aid projects and all State funded projects:

1. The Record of Contact and Change Order for the following types of proposed modifications or extra work must be approved by the Contact Administration Division prior to the commencement of any modification or extra work for all exempt Federal-aid and all State funded projects:

   a. modifications that significantly change the cost or alter the termini, character, or scope of the work under the Contract. See Section 104.11 of the **Standard Specifications** for circumstances that constitute a significant change; and

   b. modifications that include a Contract time extension.

2. A “Reviewed and Approved” stamp, signed and dated by the Contract Administration

Division, will be affixed to the Change Order document to signify approval. The document will not be prepared prior to the Contract Administration Division similarly approving the corresponding Record of Contact (i.e., the PRS generated preparation date on the Change Order document must not be prior to the date on the approval stamp affixed to the Record of Contact by the Contract Administration Division).

3. Change Orders and Records of Contact for the modifications or extra work exclusive of those in Item 1 will be approved and signed by the District Construction Engineer prior to the effective date of modification.

4. The fully executed Records of Contact noted in Items 1 and 2 will become an attachment to their respective and corresponding Change Order prior to submission of the Change Order to the District Construction Engineer for signature and approval.

5. All Supplemental Authorizations for modifications or extra work on exempt Federal-aid or State funded projects will be signed by the District Construction Engineer, then forwarded through the Contract Administration Division and the Business Manager to the Deputy State Highway Engineer – Development for approval.

6. After the Contractor signs the Change Order, the Change Order will be signed by the District Area Engineer/Supervisor, the District Construction Engineer, and signed and approved by the District Construction Engineer.

110.3.2.3 Sequencing

Change orders are submitted sequentially for each project as shown by the following example:

Change Order No. 1 — Supplemental Agreement No. 1

Change Order No. 2 — LME Force Account Work Order No. 1

Change Order No. 3 — Supplemental Agreement No. 2

Change Order No. 4 — LME Force Account Work Order No. 2

110.3.2.4 Administrative Charges

Administrative charges will not be required for Change Orders necessitated by price reductions or increases for changes in the work or materials requested by the Contractor or DOH. However, many contract specifications provide for non-conforming materials to be accepted and remain in place with an appropriate price adjustment. These price adjustments fall into one of the following two categories:

1. Within Specification Limits. Price reductions that fall within the Price Adjustment Limits of the contract specifications are placed on a Voucher Estimate without a Change Order; thus, there is no administrative charge for processing this type of price reduction.

2. Outside Specification Limits. A special evaluation of the non-conformance must be made if the non-conforming material is outside the limits of the contract specifications. Price reductions that fall outside the Price Adjustment Limits require further effort by DOH (e.g., District Materials Report) and require a Supplemental Agreement (i.e., Change Order) because the amount of the price reduction is not covered in the contract specifications and, therefore, is a modification to the Contract. Thus, a $200.00 administrative charge for each adjusted price covered in the Change Order must be included in the Change Order document.

110.3.3 LME Force Account Work Orders

110.3.3.1 Purpose

An LME Force Account Work Order will be initiated by Record of Contact and used only when it is necessary to accomplish work not describable by contract specifications but most effectively described by hours of Labor, the furnishing of Material, and hours of Equipment use, plus a percentage as detailed in the **Standard Specifications**. Section 109.4 of the **Standard Specifications** details the provisions and responsibilities associated with LME Force Account Work.

110.3.3.2 Processing and Approval

See Section 110.2 for the documentation needed for the required Record of Contact, and Section 105.6.7 for the PRS processing features related to Change Orders. Prior DOH and, on Federal-aid projects, FHWA concurrence as well as approval of equipment rental rates must be obtained in accordance with the procedures discussed in Section 110.3.2. Supporting data for the amount of insurance, B&O taxes, and bond will be submitted by the Contractor with the properly executed Change Order in accordance with the **Standard Specifications**.

110.3.3.3 Daily Report Records

When work is performed on an LME Force Account Work basis, the Project Engineer/ Supervisor must exercise strict controls to ensure that the work is being performed properly and as efficiently and rapidly as is practical. The Project Engineer/Supervisor must ensure that the labor and equipment being charged to the work are actually needed and efficiently employed, and that the materials being charged are actually and properly placed. Consider the following guidelines when administering LME Force Account Work Orders:

1. Inspector's Daily Report. LME Force Account Work records will be maintained daily on specific LME Force Account Work worksheets that are attachments to Form 442-IDR. The IDR LME worksheets should include separate daily entries on LME Force Account Work labor, materials, and equipment. Each IDR LME worksheet will contain the following minimum information:

   a. location of the work;

   b. quantity and type of labor and equipment being used;

   c. type and quantity of materials used;

   d. hours worked;

   e. description of work performed;

   f. estimate of the amount of work completed each day; and

   g. any additional information helpful in describing the work accomplished.

2. Records of Work Performed. At the end of each day's operation, the Contractor's representative and the Project Inspector will compare their records for agreement on the work performed and materials used that day. The Project Inspector must make duplicate copies of these records, and each copy should be signed by both the Project Inspector and the Contractor's Project Superintendent, or designee. One (1) copy will be forwarded to the Project Engineer/Supervisor and one (1) copy to the Contractor. To comply with these provisions, records of LME Force Account Work must be maintained daily, and representatives of both DOH and the Contractor must agree to each day's work by signature. See Section 105.5 for additional information.

3. Voucher Estimates. Payments for LME Force Account Work are made on regular voucher estimates. Such payments are substantiated by information on the LME Force Account Work Order and the initiating Record of Contact. The approved LME Force Account Work Order must be in the project file to support payment.

Section 111

PROJECT RECORDS AND DAILY REPORTS

111.1 GENERAL

111.1.1 DOH Personnel Responsibilities

Maintaining complete and accurate entries of project records and quantity calculations in the Daily Reports, especially on large projects, is one of the most important functions of the Project Engineer/Supervisor to substantiate quality of materials and workmanship, payments to the Contractor, and any claims made. Measurements for payment must be correct, and records must be complete, accurate, and clear. The Project Engineer/Supervisor must ensure that the entries in the Daily Reports and the Project Files are in proper order. Although the Project/Engineer may delegate tasks to other DOH project personnel (e.g., Project Inspectors), the Project Engineer/Supervisor bears the ultimate responsibility for the disposition of the Project Files.

111.1.2 Project Data

111.1.2.1 Purpose and Importance

Based on the list of Contract bid items, the entries in the Daily Reports must document measurements and calculations of quantities for payment on every item in the Contract. The Daily Reports must be organized and include entries of notes, sketches, measurements, and/or calculations for each item. This applies even to lump-sum items where the entry may consist only of a note, date, and signature to certify the work was actually performed as specified. Maintaining complete and accurate entries in the Daily Reports is an important responsibility of the Project Inspector and, ultimately, the Project Engineer/Supervisor. The Project Inspector's observations, notes, sketches, measurements, calculations, and directives are the basis for justifying all aspects of the project. Because much of the Contractor's work is covered by subsequent construction, the results cannot be readily reviewed later. Written reports, records of observation, and measurement are usually the only remaining evidence that the work was performed as specified and that the Division received the complete benefits of the Contractor's work as bid. Emphasis should be placed on recording all portions of the Contractor's work daily, as it is performed and inspected, not at a later time. For example, the following information should be recorded, as applicable, on a day-to-day basis:

1. material source and product laboratory numbers;

2. sampling of quality control and acceptance tests (e.g., for compaction) and results;

3. measurements for progress payments and final payments, as applicable;

4. locations and results of final depth checks; and

5. other information as required for substantiation.

Section 111.2 provides additional information on Daily Report entries for typical Contract items.

Photographs and videotapes should be an important part of the project records. They can serve to document the record with respect to slides, cave-ins, floods, and other unusual occurrences; actual conditions when a contractor alleges, "Differing Site Conditions", unusual construction features or practices; accidents involving death, personal injury or property damage; encroachments within the right- of –

way; reports on experimental features and unusual construction practices; and final construction reports. They are invaluable as evidence in case a controversy develops during a contract which results in litigation.

To best serve their intended purpose, photographs and videos must be taken at appropriate stages of construction; i.e. immediately after unusual occurrences and before unusual conditions are disturbed. Clarity and good composition are very important and proper identification is necessary. Narrative portions of videos should be limited to what is being taped. The identification record for each photograph and video should include the exact location taken (including references to project stations if applicable), time of day and date taken, weather conditions at the scene, name and signature of the photographer or taper, and serial number of the photograph, negative, and/or video. This information is particularly important if the photos or videos are used as evidence in possible legal proceedings.

The photograph and video identification records should be organized so that all can be easily located. The photos and videos should be maintained as a part of the project files. Distribution of any copies of the photos and/or videos should be properly recorded.

111.1.2.2 Materials Certification

The Project Records System (PRS) and Materials Management System (MMS), provide an integrated, computerized accounting system that tracks all data essential for Materials Certification on the project (e.g., delivery, testing, placement, payment). The MMS is maintained on a day-to-day basis to update and track the current status of all materials for each item on every project under the jurisdiction of the DOH. To a large extent, the beginning of this tracking process is initiated at the Project level when entries (e.g., laboratory numbers, quantities) are made in the Inspector's Daily Reports and subsequently entered into the Project Records System. A critical part of this overall approach is the day-to-day review and validation of Daily Report entries (see Section 111.3). See Section 106 for additional information on control of materials and Section 105.6 for an overview of the workflow of the Project Records System.

111.1.3 Inspector's Daily Reports (Form 442)

The Division requires project field personnel (e.g., Project Engineers/Supervisors, Project Inspectors) to document project records on a day-to-day basis on task-specific forms. This facilitates the collection, review, and validation of complete and accurate project records. The DOH forms for Supervisor Daily Reports (Form 442-SDR) and Inspector Daily Reports (Form 442-IDR), including its over twenty (20) task-specific worksheet attachments, must be used as intended by DOH. See Section 105.5 for additional information on Form 442 and Daily Reports. For example, IDRs should include all reports, survey notes, original measurement sheets, calculations, piling record attachments (i.e., Form 422A and Form 422B), and other pertinent worksheets and information as needed for proper administration of the Contract. This information will be either documented on Form 442 (i.e., SDR or IDR) itself, the worksheet attachments, or in some other manner (e.g., Field Survey Books). This information will become a permanent record in the Project Books (see Section 111.1.4). Emphasis should be placed on maintaining accurate and complete entries of measurements for determining quantities and attaching to the Daily Reports all substantiating sketches, measurements, calculations, and worksheets.

111.1.4 Maintaining Project IDRs and Field Survey Books

Project books include Daily Reports (i.e., SDRs and IDRs) and Field Survey Books (i.e., standard K&E-type field data books). Daily Reports will be maintained in loose-leaf binders in the Project Field Office. Field Survey Books

may be stake-out books, cross section books, or any field book used by Survey Parties and Project Inspectors for recording data, sketches, measurements, and calculations. A general description of Field Survey Books is presented in Section 639. It is very important that Daily Reports and Field Survey Books be sequentially numbered from the start of the project as follows:

1. Inspector Daily Reports. Inspector Daily Reports will be numbered sequentially throughout the project beginning with the first Daily Report as follows: IDR1, IDR2, IDR3, etc.

2. Field Survey Books. Field Survey Books will be numbered sequentially throughout the project beginning with the first one completed as follows: F1, F2, F3, etc.

Place the sequence numbers in the upper right-hand corner of the Daily Reports and Field Survey Books. The numbering system will be used for identification throughout the project. The project number must appear on the front of all IDRs and Field Survey Books.

111.1.5 Project Files

111.1.5.1 Purpose

The purpose of any filing system is to arrange the files in an organized manner so that documents can be retrieved as desired without delay. To better achieve this objective, a uniform filing system for DOH Project Files is highly recommended. The importance of being able to retrieve on demand any project record cannot be over emphasized. Project records are used to justify payments, determine acceptability of materials, verify conformance of work and materials, substantiate eligibility for reimbursement on Federal-aid projects, and provide evidentiary evidence in disputes and claims.

111.1.5.2 Storage and Protection

Project files are generally maintained in the Project Field Office. It is important to store all project files in a fireproof cabinet within the Field Office when not in use, including the backup storage media for PRS data. It is preferred that the media containing the weekly PRS backup data be stored off-site.

111.1.5.3 File Organization

The key to maintaining useful project records is to establish a filing system in advance and maintain the filing system throughout the project. The Project Engineer/Supervisor must establish the organization of the filing system early in the project. An organized file of accurate and complete project records will expedite and simplify Contract administration. Project files will include such key items as SDRs, IDRs, correspondence, and District Materials Reports (MIRs). Original Daily Reports and worksheet attachments should be retained in the Project Field Office. Other original documents will be retained in the District Office with copies retained in files of the Project Field Office. Use the following guide to establish the files for the project:

1. Contract Award Authorization and Contract Proposal.

   a. Bid Acceptance Letter (Form 404) and Contract Bond;

   b. Field Reviews (prior to construction);

   c. Notice of Pre-Construction Conference and Pre-Construction Conference Report; and
   d. Insurance Policies.

2. Agreements.

   a. Records of Contact (Form 427);

   b. Change Orders listed in order of Sequence Number including Supple-

mental Agreements and LME Force Account Work Orders (e.g., Railroads);

c. Request for Approval of Waste or Borrow Site (Form 445); and

d. Off-Site Property Agreements.

3. Utilities.

a. Adjustment Agreements and Plans;

b. IDR Worksheet Attachments (Form 453); and

c. correspondence with representatives.

Note: Use a separate file for each company.

4. General Correspondence.

a. Received from Contractor and DOH District Office and Central Office; and

b. Forwarded to Contractor and DOH District Office and Central Office.

Note: Records should be documented by date on a master sheet by subject.

5. Progress and Working Time.

a. Notice to Proceed;

b. Prime and/or Subcontractor Starting and/or Suspension Notice;

c. original Detailed Construction Schedule, if applicable;

d. Monthly Schedule Update Reports and revised Detailed Construction Schedules, as appropriate;

e. Evaluation of Project Progress (Form 472C), if applicable; and

f. Weekly Working Time Report (Form 418), if applicable.

6. Estimates.

a. Voucher Estimates (Form 409);

b. Quantity Validation Reports (QVRs). Note: District Office retains originals, copies of validated QVRs will be maintained in Project Files; and

c. Non-Participation Statement (Form 410).

7. Inspection Reports.

a. Records of Contact (Form 427);

b. Auditing Section Reports and Replies, if applicable; and

c. FHWA Construction Inspection Reports.

8. Approval Forms.

a. Subcontracting Request (Form 403); and

b. Contractor's Proposed Source of Materials (Form 454).

9. Equipment.

Note: Lists must include and segregate both Contractor and DOH equipment.

10. Project Personnel.

a. Sign in Sheets;
b. Salary Time Reports (DOH-12);
c. assigned equipment; and
d. employee transfer letters.

11. General Materials.

a. quality of aggregates from commercial source list; and

b. quality control plans for aggregate, concrete, asphalt, and compaction.

12. Telephone Records.

    a. Long Distance Phone Record (DOH-45).

13. Federal-Aid Participation.

    a. Statement of Compliance (FHWA348); and

    b. Contractor's Weekly Payrolls.

    Note: Include these as applicable for Federal-aid projects.

14. Miscellaneous Records.

    a. Supervisor Daily Reports;

    b. Inspector Daily Reports and all worksheet Attachments;

    c. Survey Field Books;

    d. As-Built Plans, as applicable; and

    e. Cross-Section Sheets.

    Note: Place in individual file drawers.

15. Bid Item Files.

    a. all relevant documentation pertaining to bid items (e.g., Form 401, Form 601-3);

    b. Shipping Documents (e.g., weight tickets, bills of lading). Note: A legible copy of all shipping documents for materials inspection by the MCS&T Division will be forwarded to the District Materials Supervisor; and

    c. Concrete Delivery Tickets.

16. External Contract Compliance Section Files.

    a. Equal Employment Opportunity (EEO); and

    b. Training Proposals and Programs.

17. EEO — Disadvantaged Business Enterprises (DBE).

    a. Prime Contractor's approved DBE plan;

    b. Copy of executed agreement between Prime Contractor and each DBE subcontractor;

    c. Copy of executed agreement between any subcontractor and any lower tier DBE subcontractor;

    d. Copy of lease agreement between DBE subcontractor or lower-tier subcontractor and lessee regarding leased equipment; and

    e. Copy of Insurance Certificate for any licensed, insured, and fully operational vehicle owned by the DBE subcontractor.

18. Safety Program (e.g. OSHA).

    a. Contractor's Safety Plan (e.g., Dismantling Structures);

    b. Weekly Safety Meeting Reports; and

    c. Records of Safety Violations and Corrective Action.

19. Contractor's Environmental Control Plans.

    a. Erosion and Sediment Control Plan;
    b. Disposal of Hazardous Material (e.g., shipping manifests, approval status);

    c. Asbestos Removal Plan; and

    d. Permits and Agreements from other Agencies (e.g., DEP, DNR, US Army Corps of Engineers).

20. Maintenance of Traffic Plan (MOT).

21. Electronic PRS Files.

    a. diskettes, tapes, and/or CDs.

    Note: Perform weekly backups and store off site in fireproof box.

111.1.6 Project Reference Materials

It is good administrative practice to have ready access to reference materials during the project when questions arise. Consider the following list of publications and manuals as a desirable project library for the Project Field Office:

1. **Standard Specifications Roads and Bridges**, WVDOT DOH;
2. **Supplemental Specifications**, WVDOT DOH;
3. **Construction Manual**, WVDOT DOH;
4. **Construction Memorandums**, WVDOT DOH;
5. **Materials Procedures**, WVDOT DOH (hard copy or Internet access);
6. **Traffic Control for Street and Highway Construction and Maintenance Operations**, WVDOT DOH;
7. **Erosion & Sediment Control Manual**, WVDOT DOH;
8. **Best Management Practices for Containment/Disposal of Waste Products Generated During Bridge Cleaning and Painting Activities**, WVDOT DOH;
9. **Manual on Uniform Traffic Control Devices**, FHWA; and
10. **Standard Detail Book**, Volume I and Volume II.

111.2 DAILY REPORT ENTRIES

Section 111.2 provides guidance for making entries in the Daily Reports for typical Contract items.

111.2.1 Clearing and Grubbing

The quantity for payment for clearing and grubbing is the quantity shown on the Plans. Added areas should be calculated and documented in the Inspector's Daily Report. Include sketches as needed and note if calculations are based on field measurements or measurements scaled from the Plans. Selective clearing not shown on the Plans and removal of trees outside the limits of clearing and grubbing will be paid for as Extra Work or LME Force Account Work.

111.2.2 Unclassified Excavation

The quantities for unclassified excavation and other pay items such as cribbing walls, gutters, sewers, longitudinal drainage ditches, and special rock fill are determined from original and final cross sections. Use the following procedures when determining quantities using cross sections:

1. Record the final cross section data in the Field Survey Book (see Section 639).
2. Plot the original and final cross sections on cross-section paper with the Plan template to determine and/or limit the pay quantities.
3. Mark each cross-section sheet clearly for submission with the tentative final estimate.
4. Note in the Daily Report that the areas were determined by calculation based on cross sections and provide reference to the respective cross section sheets.

Unclassified excavation will be paid to the limits of the template on the Plans, if the Contractor has performed excavation within the tolerance of the contract specifications. Excavation beyond the template will be paid only if such excavation is approved in writing in accordance with Section 207 of the **Standard Specifications**. Consider the following additional guidelines:

1. Excavation Beyond Template. Explicitly note in the Daily Report any excavation beyond the Plan template or behind any slopes that are changed in the field.

2. Special Rock Fill. The quantity of special rock fill is measured in-place and determined by the method of average end areas. After placement, final sections are taken and the area that is occupied by the special rock fill can be readily calculated. Calculations based on scaled measurements from the Plans or load counts are not acceptable methods of measurement for this pay item. Where special rock fill must be placed simultaneously with embankment material, measurements should be taken at 50-ft (15-m) stations on each layer of rock placed.

111.2.3 Underdrains

Although the Plans may call for underdrains at particular stations, field conditions frequently necessitate their placement at additional locations. It is important to carefully document placement of additional underdrains in the Daily Reports. Where an extensive system of pipe underdrains is constructed, include an initial sketch in the Daily Report showing the general layout of the system. Draw the roadway centerline and denote the location of the pipes in the sketch by offset from the centerline. Excavation and material quantities can then be determined for each conventional section of the system. After determining separate quantities for each section, total them to determine the final quantities for payment. Note this information in the Daily Report.

111.2.4 Box Culverts and Structures

Use the following guidelines to document box culverts and structures in the Daily Reports:

1. Sequence of Documentation. The following sequence will be used to document sketches and calculations in the Daily Reports for box culverts and structures:

   a. structure excavation,
   b. steel bearing piles,
   c. Class B concrete,
   d. Class K concrete,
   e. reinforcing steel,
   f. slope protection,
   g. select material for backfill,
   h. approach slabs, and
   i. lump-sum bid items.

2. Dimensions and Measurements. Dimensions for box culverts and structures should be determined from information on the Plans so that all dimensions will be exact. Specifically denote dimensions that are measured in the field taken for verification.

3. Separate Elements. Structures such as bridges and retaining walls will be documented similar to box culverts; however, elements of these structures should be documented separately as follows:

   a. pilings,
   b. foundations,
   c. footings,
   d. columns,
   e. caps,
   f. bents,
   g. piers,
   h. abutments,
   i. substructure,
   j. individual spans for decks,
   k. handrail,
   l. approach slabs, and
   m. superstructure.

4. Test Piles. Include a note in the Daily Report if test piles were driven and the date of the operation. Also, make a general note if no test piles were driven.

5. Bridge Deck Tolerance. Upon documenting the completion of bridge deck concrete, note in the Daily Report whether or not the bridge deck tolerance was acceptable. If it was not acceptable, note in the Daily Report what action was taken in determining an equitable reduction. See MP 601.11.20 for use of rolling straightedge.

111.2.5 Portland Cement Concrete Pavement

Use the following guidelines to document Portland cement concrete pavement in the Daily Reports:

1. Supplemental Measurements. The most important consideration in determining pay quantities for PCC concrete pavements is ensuring that sufficient measurements are obtained for use in calculating the quantities. Selecting the proper field measurements to supplement the Plan dimensions requires foresight and a basic understanding of the formulae used to calculate quantities for aprons, approaches, acceleration and deceleration lanes, and intersections. Consider these preparatory tasks before the operation commences.

2. Acceptability/Core Samples. The degree of acceptability of PCC concrete pavement is based on the thickness criteria established in the contract specifications and is determined by pavement core analysis. When specified in the Contract, a statistical approach will be used in the analysis of pavement thickness and strength. If the Contractor requests to take additional core samples for verification in accordance with the contract specifications, an authorized representative of the Contractor and the Project Engineer/ Supervisor should be present at the time the core samples are taken. If the samples reveal that the pavement thickness is within allowable tolerance of the governing contract specifications, note this fact in the Daily Report. Such information may be obtained from the Materials Inspection Report (MIR).

111.2.6 Liquid Asphalt/Bituminous Material

111.2.6.1 Actual Quantity

Use one of the following methods to determine the actual quantity of bituminous material used:

1. dipstick measurements before and after unloading;

2. readings before and after unloading from a gage that has been previously checked for accuracy; or

3. reweighing the vehicle. The fuel tank must be full prior to reweighing.

In methods 1 and 2 above, the temperature at the time of measurement must be recorded in the Daily Report. Also, clearly note the method of measurement used.

111.2.6.2 Equivalency Adjustment

To determine pay quantities, the actual quantity of bituminous material used must be converted to an equivalent quantity (i.e., volume) at a temperature of 60°F (15°C) using the appropriate criteria on the Form 442-IDR worksheet attachment for bituminous material. The Contractor must furnish all information necessary to determine the group number of the bituminous material actually incorporated in the project so that the appropriate conversion factor may be selected from the worksheet attachment. This may include any of the following:

1. group number,
2. specific gravity,
3. API specific gravity, or

4. weight (mass) per unit volume.

111.2.7 Aggregates

The payment measurement for aggregate materials for base, subbase, shoulders, and similar pay items is the number of cubic yards (cubic meters) shown on the Contract Plans or tons (Mgs) where weigh tickets are required. Aggregate material used outside Plan limits will not be paid unless properly authorized by DOH. Authorized additions or deletions to Plan quantities must be determined and documented in the IDR. Use the following procedures and guidelines:

1. Section Worksheets. Use worksheets to determine where sections are appropriate for the simplest, most reasonable determination of quantities. These worksheets should itemize section numbers for different section types including slope changes, super-elevations, beginning and ending points for transitions, guardrails, underdrains, and any other features that affect volume. If there is doubt as to what section to use, perform a field check and place the note "verified by field check" in the Daily Report. Attach these worksheets to the Daily Report. Using the worksheets, perform an evaluation to determine the typical sections needed and the stations to be represented in the Daily Report. The worksheets will be submitted with the tentative final estimate to assist in evaluating these items.

2. Separate Calculations. To better organize and effectively calculate the quantities, separate the calculations of quantities for each different item as follows:

   a. the area under the pavement;
   b. right shoulder; and
   c. left shoulder.

3. Area Calculations. Include sketches of typical sections and compute the area components using the base course slope equation. Tables can effectively be used in conjunction with typical sections to cover ranges of slopes for particular typical sections. All area calculations of typical sections must be checked before proceeding with volume calculations.

4. Volume Calculations. Perform volume calculations in a tabular format and include sufficient information to identify the typical sections used. The stations and setup of the tables should be carefully checked before calculating the volume quantities.

5. Control of Materials. Where aggregate is tested and stockpiled for subsequent use, the following procedures will apply:

   a. Where aggregate material is delivered and samples are taken for gradation analysis, determine the source and check the DOH Approved Source/Product Listing for acceptability.

   b. Assign the gradation samples a laboratory number and enter the number and requisite information on the Daily Report. This information will subsequently be entered in PRS.

   c. Ensure that entries are made on the Daily Reports for each item for which the aggregate material is used.

   d. Results of Quality Control Samples will be forwarded immediately upon completion to the District Materials Supervisor for further processing.

111.2.8 Weigh Tickets

The following guidelines apply to processing weigh tickets at the project level:

1. Contractor Responsibilities. The Contractor will furnish all weigh tickets showing quantities received for items such as stone, bituminous concrete, and water.

2. Signatures. In accordance with the contract specifications, weigh tickets must be initialed at the weigh scale by the Contractor's representative to certify the weights are correct. Where the item is paid for in tons (Mgs), the Project Inspector must sign all weigh tickets at the point of delivery, thus documenting that the type and quantity of material shown on the ticket was actually delivered and placed. The Projector Inspector's signature on the weigh tickets should be followed by "DOH." Any shipment, or portion thereof, of material rejected by the Project Inspector also will need the word "rejected" written on the weigh ticket. However, the Project Inspector will not sign the rejected tickets. Check weigh tickets daily so that any problems with signatures can be detected early in the project.

3. Laboratory Numbers. All weigh tickets must include appropriate laboratory numbers. These numbers must be recorded on the Daily Report.

4. Mix Design Numbers. The first weigh ticket of each day for hot-mix asphalt concrete will include the mix design number and all necessary laboratory numbers, which will be entered onto the IDR and PRS. If there is a mix design change during the day, the weigh ticket will reflect a new set of laboratory numbers and target density. Note any such changes on the Daily Report. The same procedure applies to shipments of PCC concrete and aggregate material except that source laboratory numbers must also be recorded on the Daily Report.

5. Daily Reports and Filing. Attach the original signed weigh tickets, including adding machine tapes supporting the totals, to the proper worksheet attachment of Form 442-IDR, and file this Daily Report in the Project Field Office. One copy of each weigh ticket will be given to the Contractor. Adding machine tapes should be attached to the tickets to support the totals represented. Care should be taken to ensure that the machine is cleared and the tape marked prior to the beginning of each tape. The Daily Report should contain the following minimum information:

   a. the ticket numbers and amounts on IDR attachments; and

   b. the total weight or volume represented by the weigh tickets for that day's payment.

111.2.9 Concrete Sidewalks

Care should be taken when representing the quantity of concrete sidewalk constructed across driveways, because some Plans call for extra thickness at driveway crossings. The Specifications will be used to determine the quantity and payment.

111.2.10 Seeding and Mulching

The quantity for seeding, mulching, fertilizer, and ground agricultural limestone will be measured for payment and documented in the Daily Report according to the Specifications.

111.2.11 Materials Delivered Not In Place (MDNIP)

Materials delivered but not in place are recorded on the Daily Report and input into PRS as discussed in Section 109.2.1.

111.2.12 Other Considerations

111.2.12.1 Integrity of Entries

All notes, sketches, measurements, and calculations that are made on or attached to the Daily Report must be neat, legible, complete,

accurate, and unquestionable. Consider the following guidelines when making entries:

1. Consistency. A high degree of consistency from day-to-day should be emphasized when making entries in the Daily Reports.

2. Erasures. Erasures will not be tolerated. To make a correction, strike out the incorrect entry and write in the correct information. Initial all corrections.

3. Measurement/Payment. Before entering any item in the Daily Report, the "Method of Measurement" and "Basis of Payment" sections of the Specifications should be studied.

4. Measurements/Dimensions. To ensure accuracy, all measurements and dimensions must be obtained by methods that are unquestionable as to their integrity and origin. Each measurement should be denoted as a field measurement, Plan measurement, or calculated measurement. Any dimension contrary to the approved Plans or altered by approved changes must be explained in the Project Books, and the authority for the change clearly stated. Measurements should be taken only to the number of decimal places that can be determined within reasonable accuracy by conventional methods.

5. Clarity. Clarity can best be obtained by adequate spacing of sketches and figures. Formulas should be clearly stated before each calculation. When constants or lookup tables are used, refer to the source of the information.

6. Sketches. Provide sketches, as needed, to substantiate calculations and be consistent when presented sketches.

111.2.12.2 Rounding Numbers

When making entries in the Daily Reports, decisions are necessary on how to round calculated numbers. Rounding provides a stopping place when presenting numbers, makes numbers easier to use without sacrificing the degree of accuracy needed, and provides consistency in the method of calculation. When rounding calculations, use the following guidelines:

1. Interim vs. Final Results. When it is necessary to perform one or more calculations to obtain the final answer, all preliminary or prior results should be carried out and rounded to one decimal place more than is needed for the final answer.

2. Degree of Accuracy. As applicable and appropriate, use the quantity rounding criteria presented in Figure 111A to determine the degree of accuracy needed.

3. Exceptions. Exceptions often are necessary when the contract specifications or other project notes dictate the use of a different degree of accuracy. If the number of decimal places for rounding is not shown in the Specifications, Special Provisions, Plans, or Figure 111A, use the following additional guidelines, listed in order of preference:

   a. use the degree of accuracy for similar items shown in Figure 111A; or

   b. use the degree of accuracy that reflects the most precise measurement that can be practically obtained in the field, especially if the unit price for the item is very large.

4. Rounding Rules. Use the following procedures and guidelines when rounding numbers:

   a. Rule One. Determine the LAST DIGIT TO BE USED. This is the last digit needed for accuracy.

b. Rule Two. If the digit following the last digit to be used is 0, 1, 2, 3, or 4, then drop it and all that follow. DO NOT CHANGE the last digit to be used.

c. Rule Three. If the digit following the last digit to be used is 6, 7, 8, or 9, then drop it and all digits that follow. Add 1 to the last digit to be used.

d. Rule Four. If the digit following the last digit to be used is 5, drop it and all that follows. If the last digit to be used is an even number, do not change it but, if it is an odd number, add 1.

e. Rounding Examples. The following examples have been rounded off one decimal place to illustrate these rules:

61.4 => 61
61.6 => 62
61.5 => 62
64.5 => 64
48.63 => 48.6
48.68 => 48.7
48.65 => 48.6
48.75 => 48.8

ITEM	ENGLISH UNIT		DEGREE OF ACCURACY
Division 200 Earthwork			
Unclassified Excavation	Cubic Yard		0.100
Borrow, Rock Borrow, or Select Borrow Excavation	Cubic Yard	Ton	0.100
Structure, Wet or Rock Excavation	Cubic Yard		0.100
Select Material for Backfilling	Cubic Yard		0.100
All Types of Engineering Fabric	Square Yard		0.100
Riprap	Cubic Yard		0.100
Grouted Riprap	Cubic Yard		0.100
Gabion	Cubic Yard		0.100
Crushed or Concrete Rock Slope Protection	Square Yard		0.100
Foundation Protection	Cubic Yard		0.100
Shot Rock		Ton	0.100
Controlled Low Strength Material	Cubic Yard		0.100
Subgrade Preparation	Square Yard		0.100
Shoulders and Ditches	Mile		0.001
Clean Culvert	Linear Foot		1.000
Division 300 Bases			
Aggregate Base Course	Cubic Yard	Ton	0.100
Traffic Bound Base Course or Shoulder		Ton	0.100
Open Graded Free Draining Base Course	Cubic Yard		0.100
Subbase Aggregate		Ton	0.100
Division 400 Bituminous Pavements			
Hot-Mix Asphalt Wearing or Base Course	Square Yard	Ton	0.100
Hot-Mix Asphalt Patching and Leveling Course		Ton	0.100
Scratch Course		Ton	0.100
Hot-Mix Asphalt Skid Resistant Pavement	Square Yard	Ton	0.100
Surface Treatment Aggregate		Ton	0.100
Patching and Leveling Course		Ton	0.100
All Types of Bituminous Material	Gallon		1.000
Tack Coat or Prime Coat Aggregate		Ton	0.100
Winter Grade Asphalt Patching Mixture		Ton	0.100
Removing Existing Pavement Surface	Square Yard		0.100
Division 500 Rigid Pavement			
All Portland Cement Concrete Pavement	Square Yard		0.100
Portland Cement Concrete Approach Slab	Square Yard		0.100
Sealing Joints and Cracks, Saw and Seal	Linear Foot		1.000
All Concrete Pavement Repair	Square Yard		0.100
Crack and Pothole Repair		Ton	0.100
Division 600 Incidental Construction			
All Classes of Structural Concrete	Cubic Yard		0.100
All Reinforcing Steel		Pound	1.000
All Prestressed Concrete Beams and Deck Panels	Linear Foot		0.010
Precast Reinforced Concrete Three-Sided Structure	Linear Foot		0.010
Precast Reinforced Concrete Wingwall	Linear Foot		0.100
Precast Reinforced Concrete Headwall	Square Yard		0.100
All Types of Pipe Culverts and Underdrains	Linear Foot		0.100

QUANTITY ROUNDING CRITERIA
Figure 111A — US Customary

ITEM	ENGLISH UNIT		DEGREE OF ACCURACY
Division 600 Incidental Construction			
Slot Inlet Riser	Linear Foot		0.100
All Types of Guardrail	Linear Foot		0.100
Right-of-Way and Temporary Fence	Linear Foot		0.100
Concrete Sidewalk	Square Yard		0.100
Bed Course Material for Sidewalk and Curb	Cubic Yard		0.100
All Types of Curbing and Curb and Gutter	Linear Foot		0.100
Tunnel Liner Plate Pipe	Linear Foot		0.100
Steel Bearing Piles, Concrete, or Sheet	Linear Foot		0.100
Steel, Concrete, or Timber Lagging	Square Foot		0.100
Fabricated Structural Steel		Pound	1.000
Pipe, Ferrous, or Aluminum Railing	Linear Foot		0.100
Dampproofing	Square Yard		0.100
Steel Grid Flooring	Linear Foot		0.100
All Timber Bridge Structures	M Board Ft		0.100
Shotcrete	Square Foot		0.100
Performed Elastomeric Joint Sealer	Linear Foot		0.100
Drilled Caissons	Linear Foot		0.100
Preinstallation Core Hole	Linear Foot		0.100
Retaining Wall, Cast-in-Place Reinforced Concrete	Square Foot		0.100
MSE Retaining Wall	Square Foot		0.100
Horizontal Drain	Linear Foot		0.100
Concrete Gutter	Square Yard		0.100
Invert Pipe Gutter	Linear Foot		0.100
Dumped Rock Gutter	Cubic Yard		0.100
Concrete or Metal Cribbing	Cubic Foot		0.100
Temporary Pavement Markings	Linear Foot		0.100
Temporary Concrete or Guardrail Barriers	Linear Foot		0.100
Water for Dust Palliative or Plants	M Gallons		1.000
All Seed Mixtures, Temporary or Permanent		Pound	0.100
Mulch		Ton	0.100
Fertilizer		Ton	0.100
Agricultural Limestone		Ton	0.100
All Types of Fiber Matting	Square Yard		0.100
Sediment Trap, Dam, Pond, or Removal	Cubic Yard		0.100
Silt Fence	Linear Foot		0.100
All Types of Roadside Sign Supports	Linear Foot		0.100
Class B Concrete Footing, Plain or Reinforced	Cubic Yard		0.100
Flat or Extruded Sign	Square Foot		0.100
Edge, Lane, Centerline, or Barrier Lines	Mile		0.001
All Types of Lines or Stripes	Linear Foot		0.100
All Waterline Pipe or Casing	Linear Foot		0.100
All Sanitary Sewer Pipe or Casing	Linear Foot		0.100
Specialized Concrete Overlay	Cubic Yard		0.100
Slab Reconstruction Concrete	Cubic Yard		0.100
Removal of Existing Deck Surface	Square Yard		0.100

QUANTITY ROUNDING CRITERIA
Figure 111A — US Customary
(Continued)

ITEM	METRIC UNIT		DEGREE OF ACCURACY
Division 200 Earthwork			
Unclassified Excavation	Cubic Meter		0.100
Borrow, Rock Borrow, or Select Borrow Excavation	Cubic Meter	Megagram	0.100
Structure, Wet or Rock Excavation	Cubic Meter		0.100
Select Material for Backfilling	Cubic Meter		0.100
All Types of Engineering Fabric	Square Meter		0.100
Riprap	Cubic Meter		0.100
Grouted Riprap	Cubic Meter		0.100
Gabion	Cubic Meter		0.100
Crushed or Concrete Rock Slope Protection	Square Meter		0.100
Foundation Protection	Cubic Meter		0.100
Shot Rock		Megagram	0.100
Controlled Low Strength Material	Cubic Meter		0.100
Subgrade Preparation	Square Meter		0.100
Shoulders and Ditches	Kilometer		0.001
Clean Culvert	Linear Meter		0.100
Division 300 Bases			
Aggregate Base Course	Cubic Meter	Megagram	0.100
Traffic Bound Base Course or Shoulder		Megagram	0.100
Open Graded Free Draining Base Course	Cubic Meter		0.100
Subbase Aggregate		Megagram	0.100
Division 400 Bituminous Pavements			
Hot-Mix Asphalt Wearing or Base Course		Megagram	0.100
Hot-Mix Asphalt Patching and Leveling Course		Megagram	0.100
Scratch Course		Megagram	0.100
Hot-Mix Asphalt Skid Resistant Pavement		Megagram	0.100
Surface Treatment Aggregate		Megagram	0.100
Patching and Leveling Course		Megagram	0.100
All Types of Bituminous Material		Liter	1.000
Tack Coat or Prime Coat Aggregate		Megagram	0.100
Winter Grade Asphalt Patching Mixture		Megagram	0.100
Removing Existing Pavement Surface	Square Meter		0.100
Division 500 Rigid Pavement			
All Portland Cement Concrete Pavement	Square Meter		0.100
Portland Cement Concrete Approach Slab	Square Meter		0.100
Sealing Joints and Cracks, Saw and Seal	Linear Meter		0.010
All Concrete Pavement Repair	Square Meter		0.100
Crack and Pothole Repair		Megagram	0.100
Division 600 Incidental Construction			
All Classes of Structural Concrete	Cubic Meter		0.100
All Reinforcing Steel		Kilogram	1.000
All Prestressed Concrete Beams and Deck Panels	Linear Meter		0.010
Precast Reinforced Concrete Three-Sided Structure	Linear Meter		0.010
Precast Reinforced Concrete Wingwall	Linear Meter		0.100
Precast Reinforced Concrete Headwall	Square Meter		0.100
All Types of Pipe Culverts and Underdrains	Linear Meter		0.010

QUANTITY ROUNDING CRITERIA
Figure 111A — Metric

Division 600 Incidental Construction			
Slot Inlet Riser	Linear Meter		0.010
All Types of Guardrail	Linear Meter		0.010
Right-of-Way and Temporary Fence	Linear Meter		0.010
Concrete Sidewalk	Square Meter		0.100
Bed Course Material for Sidewalk and Curb	Cubic Meter		0.100
All Types of Curbing and Curb and Gutter	Linear Meter		0.010
Tunnel Liner Plate Pipe	Linear Meter		0.010
Steel Bearing Piles, Concrete, or Sheet	Linear Meter		0.010
Steel, Concrete, or Timber Lagging	Square Meter		0.010
Fabricated Structural Steel		Kilogram	0.500
Pipe, Ferrous, or Aluminum Railing	Linear Meter		0.010
Dampproofing	Square Meter		0.100
Steel Grid Flooring	Linear Meter		0.010
All Timber Bridge Structures	Cubic Meter		0.100
Shotcrete	Square Meter		0.010
Performed Elastomeric Joint Sealer	Linear Meter		0.010
Drilled Caissons	Linear Meter		0.010
Preinstallation Core Hole	Linear Meter		0.010
Retaining Wall, Cast-in-Place Reinforced Concrete	Square Meter		0.010
MSE Retaining Wall	Square Meter		0.010
Horizontal Drain	Linear Meter		0.010
Concrete Gutter	Square Meter		0.100
Invert Pipe Gutter	Linear Meter		0.010
Dumped Rock Gutter	Cubic Meter		0.100
Concrete or Metal Cribbing	Cubic Meter		0.010
Temporary Pavement Markings	Linear Meter		0.010
Temporary Concrete or Guardrail Barriers	Linear Meter		0.010
Water for Dust Palliative or Plants	M Liters		1.000
All Seed Mixtures, Temporary or Permanent		Kilogram	0.100
Mulch		Megagram	0.100
Fertilizer		Megagram	0.100
Agricultural Limestone		Megagram	0.100
All Types of Fiber Matting	Square Meter		0.100
Sediment Trap, Dam, Pond, or Removal	Cubic Meter		0.100
Silt Fence	Linear Meter		0.010
All Types of Roadside Sign Supports	Linear Meter		0.010
Class B Concrete Footing, Plain or Reinforced	Cubic Meter		0.100
Flat or Extruded Sign	Square Meter		0.010
Edge, Lane, Centerline, or Barrier Lines	Kilometer		0.001
All Types of Lines or Stripes	Linear Meter		0.010
All Waterline Pipe or Casing	Linear Meter		0.100
All Sanitary Sewer Pipe or Casing	Linear Meter		0.100
Specialized Concrete Overlay	Cubic Meter		0.100
Slab Reconstruction Concrete	Cubic Meter		0.100
Removal of Existing Deck Surface	Square Meter		0.100

QUANTITY ROUNDING CRITERIA
Figure 111A — Metric
(Continued)

111.3 REVIEW AND VERIFICATION OF DAILY REPORTS

111.3.1 Concurrent Project Finalization

The project and associated materials control procedures currently employed by the Division essentially establish a concurrent finalization process for projects. In other words, after the Notice to Proceed is given to the Contractor, project finalization begins and continues throughout the project until final DOH acceptance. The importance of DOH personnel maintaining and processing day-to-day project records has been emphasized by the West Virginia State Legislature Prompt Payment Act of 1990. It is the goal of the Division to make final payment to the Contractor on all Contracts within 60 days of the date of completion of the project including all punch list items. The execution of the Contract Completion Report (Form 416) should occur approximately 14 calendar days after final DOH acceptance of the project. The executed Contract Completion Report represents final DOH acceptance of the project.

111.3.2 Overview of Concurrent Finalization Process

To effect concurrent project finalization, information from Daily Reports is processed on a day-to-day basis at the project level using the Project Records System. DOH project personnel normally prepare and submit progress voucher estimates on the 15th day and the last day of each month. After the estimates are submitted for payment, the process of certifying materials (e.g., PRS, E 440, MMS), validating pay quantities, and obtaining Contractor concurrence is completed by DOH project and District level personnel within two weeks of submission. The Contractor's review and concurrence occurs concurrently with the Division's acceptance and payment for individual Contract pay items throughout the Contract until final acceptance.

111.3.3 DOH Personnel Responsibilities

DOH personnel at the project, District, and Division levels must perform their respective duties in a timely manner to continually document, monitor, and administer project Contracts to effect their concurrent finalization, including any delays caused by DOH or delays or non-compliance caused by the Contractor. The Construction Engineer must assume an active role to ensure that the District Construction Office Manager and the District Materials Supervisor vigorously pursue their duties to concurrently finalize the project. Every Project Engineer/Supervisor and Project Inspector must understand the importance of this objective and perform his/her duties toward this goal.

111.3.4 Verification of Daily Report Entries

The review of the Daily Reports is performed on a current basis to verify that all work to date is accurately documented and measured in compliance with the Contract, and to ensure timely transfer of appropriate data to the Project Records System and the necessary documents. Any deficiencies discovered during the verification process are corrected in accordance with established procedures prior to the transfer of any data from the Daily Reports. All Daily Reports must be checked by both Project and District level personnel. The Daily Reports will be reviewed to:

1. verify that the location, measurements, quantity, quality, and progress of work are accurately documented and in compliance with the Specifications, Contract documents, and/or established procedures;

2. verify that the accuracy of the method of measurement, "set-ups" for calculations and subsequent mathematical computations utilized to establish quantities set forth in the Daily Reports;

3. verify that sufficient information exists to substantiate the quality of materials used as specified by DOH policy for minimum evidence of inspection (see Section 106);

4. transfer appropriate data from the Daily Reports to the Project Records System; and

5. transfer appropriate data from the Daily Reports to the necessary project documents (e.g., As-Built Plans).

111.3.5 Review of "Current" Quantity Validation Report

To ensure proper payment for all work performed to date, the review of the current Quantity Validation Report is performed prior to the generation of the current voucher estimate and represents a 100% review of project records for every item in the Contract, including lump-sum items and items added to the Contract by Change Order. All measurements, calculations, and weigh tickets are included in this review. Any deficiencies discovered during this verification process are corrected in accordance with applicable procedures prior to generation of the current voucher estimate. The current Quantity Validation Report will be reviewed to:

1. verify that Daily Reports accurately document measurements and the calculations of quantities for payment;

2. verify that Daily Reports accurately document the quality of materials, including laboratory numbers, incorporated into the project;

3. verify that appropriate data was transferred from the Daily Reports to the necessary project documents (e.g., As-Built Plans);

4. verify the accurate transfer of data from the Daily Reports to the Project Records System;

5. verify that only work performed and accepted in accordance with the Specifications, Contract documents, and/or applicable procedures is included for payment on the current voucher estimate;

6. verify that all materials included for payment on the current voucher estimate is covered by tests that confirm compliance with the Specifications, Contract documents, and/or applicable procedures; and

7. verify that specific and detailed reasons are given for any variation between Plan quantities and final quantities on every completed item for payment on the current voucher estimate.

To certify that the review has been completed as stated above, the reviewer will sign, not initial, each Daily Report and Quantity Validation Report reviewed. Each line number will be marked in green with a checkmark to signify review. The Project Engineer/Supervisor will sign the current Quantity Validation Report to signify agreement with the District's Project Reviewer and recommendation for payment for the items and quantities represented in the current Quantity Validation Report and current voucher estimate. The signed current Quantity Validation Report will be forwarded to the District Office with the current voucher estimate. The original current Quantity Validation Report will be maintained at the District Office attached to the District's copy of the executed current voucher estimate. The Project Engineer/Supervisor, after reviewing the current Quantity Validation Report and before generating the current voucher estimate, will export a file of Validated Data Reports that will be forwarded to the District Office with the current Quantity Validation Report and the current voucher estimate. The file will be uploaded to the Central Office mainframe system.

The District Office must complete a 100% review of the project records for every pay item in the Contract including lump-sum items and

Section 112

ESTIMATES

112.1 GENERAL

112.1.1 Voucher Estimate (Form 409)

The Voucher Estimate (Form 409) documents both current and total-to-date quantities based on Contract unit prices. Only work performed and accepted in accordance with the Contract will be included for payment. Accompanying the Voucher Estimate will be the Non-Participating Statement (Form 410), if applicable (see Section 112.1.2).

Shipping documents and invoices that are required for payment of material delivered but not in place will be submitted to the Contract Administration Division concurrently with the current Voucher Estimate that is submitted to the Finance Division. The Project Engineer/ Supervisor must ensure that all material included on the Estimate is covered by tests used to confirm compliance with the contract specifications and meets requirements relative to evidence of inspection.

112.1.2 Non-Participating Statement (Form 410)

The quantities and amounts shown on a Voucher Estimate (Form 409) contain both participating and non-participating components. The Non-Participating Statement (Form 410) is similar to the Voucher Estimate (Form 409) except that it contains only non-participating quantities and amounts (on Federal-aid projects only) as determined from the following:

1. all items shown in the original Contract documents as non-participating or items designated by the State as non-participating;

2. all Change Orders approved as non-participating; and

3. any item or portion of item declared in writing by FHWA as non-participating.

Items 1 and 2 will be denoted with an asterisk (*) by the Project Records System indicating the Division has a “right to appeal.” The Project Engineer/Supervisor will submit a report to the District Construction Engineer providing background and supporting data for presentation of the appeal. The report then will be forwarded to the Contract Administration Division. If the appeal decision favors the Division, the District will be notified to remove the item from the Non-Participating Statement.

The non-participating total amounts for the current and total-to-date columns are carried to the summary page totals for the Voucher Estimate by the Project Records System.

When an item is declared non-participating, the project and District personnel should take prompt action to notify the Contract Administration Division of the reason for non-participation.

Documentation should be assembled and placed in the project files to justify the State’s position on accepting or rejecting non-participation of such items. If further participation is justified, the Contract Administration Division will coordinate the appeal with FHWA.

112.1.3 Lump-Sum Bid Items

Progress payments will be prorated on a time basis, the amount of which will be determined by the duration of either the item or the project. The monthly average of such items will be determined as a percentage by dividing the duration of the item in months into 100. This percentage (rounded to the nearest whole

percent) will be the amount of the lump-sum bid due the Contractor on monthly estimates. If the Contractor receives semi-monthly estimates, one-half of the monthly average (rounded to the nearest whole percent) will be used on the estimate.

Lump-sum items such as "mobilization" and "cofferdams" will be handled in accordance with the contract specifications for the amounts to be paid on the estimates.

All lump-sum bid items must also be recorded in the Daily Report with verification that the item was performed in accordance with the contract specifications.

112.1.4 Multi-Authorization Projects

When a project located in two counties is let in one Contract, although the work in each county will be chargeable to a different authorization number, the files should be maintained in accordance with the following procedures:

1. a Voucher Estimate will be prepared for the work performed in each county to assure monetary charges against the proper authorization number; and

2. all data maintained in the project files will be maintained in one set of files because no noticeable benefits would be derived from maintaining a separate file for each county.

When more than one project is included in a Contract, a separate estimate must be prepared for each project. When a single Federal-aid project is divided into sections (urban and rural), it is not necessary to prepare a separate estimate for each section.

112.2 CURRENT VOUCHER ESTIMATES

112.2.1 Preparation and Submission

A current Voucher Estimate is used to pay for current Contract quantities as computed by project and District level personnel. The Project Engineer/Supervisor is responsible for the preparation, verification for accuracy, and submission of each progress Voucher Estimate to the District Office. The Project Engineer/ Supervisor will obtain the quantities for payment on the current Voucher Estimates by totaling the quantities from each item on the Quantity Validation Report and from the Daily Reports that document the work performed.

The cut-off dates for progress Voucher Estimates will be the close of business on the 15th day of each month for all semi-monthly progress Voucher Estimates and the close of business on the last day of each month for all monthly progress Voucher Estimates. All progress Voucher Estimates will include payment for all work completed in accordance with the contract specifications through the close of business on the estimate's cut-off date. In the event that the 15th day or the last day of the month falls on a non-working day, the estimate's cut-off date will be the close of business on the last prior working date.

All progress Voucher Estimates are to be received in the District Office by the close of business on the 2nd working day following the estimate's cut-off date. Each estimate will be date-stamped by District level personnel upon receipt from the Project Engineer/Supervisor, verified for accuracy, entered into the REMIS purchasing system, and then promptly submitted through the District Comptroller to the Finance Division. All progress Voucher Estimates are to be received in the Finance Division by the close of business on the 5th working day following the estimate's cut-off date. The original current Voucher Estimate and one copy will be submitted to the Finance Division, and one copy will be submitted to the Contract Administration Division.

A concerted effort by all project and District level personnel involved in the processing of progress Voucher Estimates is required to meet the respective time frames. Depending on the delivery time required for the documents to reach the Finance Division, options such as first

class mail, overnight mail, and/or hand-carried delivery will be pursued by the District Office to ensure delivery by the 5th working day following the estimate's cut-off date.

Copies of the progress Voucher Estimate will be sent to the Contractor by the District Construction Office.

112.2.2 Unclassified Excavation

Current estimates for quantities of unclassified excavation must be computed from cross-section sheets or listed by load count (which may be confirmed after reviewing the cross sections) to document excavation made to date and shown on the estimate. Quantities for current estimates may be determined using one elevation on the centerline. Slope elevations will not usually be required if checks have been made and indicate substantial conformity to Plan templates. However, if the bottom of the cut is not reasonably level, or is stepped, more than one elevation may be necessary. Each section should always be computed from the original ground to the current line of excavation to eliminate the possibility of any carry over of errors in previous determinations.

112.2.3 Materials Delivered Not In Place

The Contractor may request payment for materials delivered but not in place in accordance with the contract specifications. See Section 109.2.1 for documenting and processing.

112.2.4 Overruns

Substantial overruns must be covered by approved Change Orders (e.g., Supplemental Agreements, LME Force Account Work Orders) which must be submitted in sufficient time ahead of the change to permit clearance with FHWA before any extra work is performed. The proper preparation and approval of Change Orders provides the basis for approval of overruns, modification of the project agreement, and maximum Federal participation. This procedure also allows the Division to voucher and receive current payments from FHWA on the items overrun.

112.2.5 Retained Percentages

Projects award May 29, 2001 or later will have no retained amounts withheld by the Division of Highways unless the Contractor specifically requests that retainage be withheld. Contractors who do not request that retainage be withheld are required to submit a contract bond, in the amount of 102% of the contract bid amount, at the time of acceptance of the bids.

For projects awarded prior to May 29, 2001, two percent (2%) of the total amount shown on each Voucher Estimate will be retained by the Division. The total amount retained may be reduced from 2% to 0.5% when all field and punch list items are complete (payment of 75% of 2% retainage results in 0.5% retained). Upon written request by the Contractor, accompanied by proper release by its Surety, and the recommendation of the District Construction Engineer, the release will be considered for approval. When the Contractor requests and obtains approval of the release, the estimate releasing the retained percentage for payment is processed like a monthly estimate and is marked "semi-final." The semi-final estimate can be submitted on any date.

112.3 FINAL VOUCHER ESTIMATE

112.3.1 Final Estimate Processing

Upon completion of the project, the final estimate is prepared for the final payment of the Contract. The final estimate is the ultimate document processed for a Contract, and must be accompanied by complete data substantiating the measurements and quantities for each item. This estimate must also be accompanied by Quantity Validation Reports detailing overruns, under-runs, and their justification.

If the Contract is a non-exempt Federal-aid Contract in excess of one million dollars in cost,

a tentative final estimate with supporting data will be transmitted to the Finalization Unit, Contract Administration Division for review. Federal exempt contracts and State-funded contracts do not require the submission of the tentative final. After review by the Finalization Unit, the tentative final estimate and supporting documents, with corrections or approval noted by the Contract Administration Division, will be transmitted back to the District for generation of the final Voucher Estimate from the Project Records System.

112.3.2 Unclassified Excavation

The final cross sections must be plotted on the original cross-section sheets on which the templates are shown. Reference blocks giving the dates of plotting and Field Survey Book numbers should be completed for reference purposes. Each sheet should be clearly marked and titled.

Any cross-section station on which the final section varies from the Plan template by an amount greater than the specified tolerance must contain a note signed by the Project Engineer/Supervisor explaining the deviation.

Pay lines must be drawn before submission and processing of any final. Pay lines are based on the recommendation of the Project Engineer/ Supervisor and will depend on the project conditions and contract specifications.

When structure excavation or other items account for volumes of material intersecting the unclassified excavation areas, pay lines must be shown on the cross-section sheets to avoid duplication of payment.

The final pay quantity for unclassified excavation should be broken down as indicated in the earthwork table of balances in the Contract plans. Additionally, significant overruns or underruns for each balance (e.g., STA 100+00 to STA 110+00, STA 110+00 to STA 120+00) should be documented and the discrepancy explained.

112.3.3 Contract Adjustments

Items such as bridge deck tolerance penalties, liquidated damages, fuel and asphalt adjustments, incentive and disincentive payments, and penalties for failing materials are considered contract adjustments. These adjustments will be maintained and processed in the Project Records System.

Reductions in price for deficient materials are initiated by the District Materials Supervisor with the computational methods dictated by the contract specifications or recommendations of the Contract Administration Division. The acceptability of any material not meeting the requirements of the contract specifications should be documented with appropriate reductions or corrections. Price reductions for material deficiencies should be treated as lump-sum price deductions rather than adjustments to unit prices. This prevents unnecessary changes when quantities are adjusted during finalization.

Liquidated damages are assessed when the actual time for completion of the project exceeds the sum of the time allotted in the Proposal plus approved time extensions. The days for which liquidated damages are to be assessed are shown on the working time report. The recommendation and computation for the monetary charges based on the applicable Specifications should be attached to the working time report as reflected by the Project Records.

112.3.4 Affidavit of Acceptance

Before final payment is made, the Contractor shall execute an Affidavit of Acceptance which is typed on the back of page one (1) of the final estimate. If the Contractor desires to reserve a right to file a claim with the Court of Claims for any sum or compensation not included in the final estimate, growing out of the Contract and the Project, then a reservation of right should be added at the end of the acceptance statement and before the attestation paragraph below. The form for Affidavit of Acceptance, without stipulation

and with stipulation, should be identical to that shown in the Paragraph below.

The within amount of _____ dollars ($_____) set out and shown in this final estimate, being Estimate No. _____, is hereby accepted and approved by _____ _____ (Contractor), as full and complete payment and settlement for all sums, claims and monies due and owing or to become due and owing, to _____ (it, him, them) as the Contractor for Federal Project Number_____, State Project Number _____ in _____County, West Virginia and the said, _____ (Name of Contractor) does hereby agree that all previous payments shown deducted therein and all amounts retained or deducted under the provisions of the Contract are proper and correct subject to the exception , if any, and the reservation of the right of the Contractor, _____(name of contractor), to file (it, his, their) petition in the West Virginia Court of Claims against the State of West Virginia and the West Virginia Division of Highways within 120 days from the date of acceptance and approval of this final estimate, for the following (Contractor must state nature, each item and amount of any claim below or all claims for additional time or money shall be deemed waived): The Contractor may attach additions sheets if necessary.

_____

_____

*IN WITNESS WHEREOF, _____ _____ (Name of Contractor(s)) has caused (its, his, their) name to be signed and (its, his, their) corporate seal(s) affixed hereto by (its, his, their) proper officer(s), thereunto duly authorized this _____ day of _____, _____.

_____
(Name of Contractor)

Affix
Corporate Seal By: _____
Its: _____

* If more than one individual Contractor, add as many lines as necessary for signature.

Section 113

REPORTS

113.1 TENTATIVE AND FINAL DOCUMENTATION

113.1.1 Overview

The following documents are required with the tentative final estimate and should be fully executed, unless otherwise indicated, prior to or along with submission of the final estimate. These documents are discussed further in Section 113. In the following list, "T" represents tentative and "F" represents final:

1. Working Time Report (Form 458) – F
2. Contractor's Performance Report (Form 420) – F
3. Materials and Labor Used (Form FHWA 47) (Federal Projects Only) – F
4. Contract Completion (Form 416) – F
5. Letter of Certification of Material – F
6. As-Built Plans – T
7. Final Voucher Estimate (Form 409) – T or F
8. Non-Participating Statement (Form 410) (Federal Projects Only) – T or F
9. Quantity Validation Reports (w/ overruns, underruns, reasons) – T or F
10. Tax Releases (Municipal) – F

Submission of tentative finals, applicable only to non-exempt Federal-aid projects in excess of one million dollars in cost, should contain explanations of the following, as applicable:

1. items objected to by the Contractor, at the District review, accompanied by the District's viewpoint;
2. materials problems that must be resolved; and
3. any other problems that must be resolved.

113.1.2 Working Time Report (Form 458)

The Working Time Report (Form 458), generated by the Project Records System, summarizes the pertinent dates concerning the project time and is the basis for establishing liquidated damages. When the Contract establishes a date for completion, time will be recorded in calendar days. When the Contract sets up a particular number of working days for completing the work, time will be recorded in working days. Time extensions are based on a review and recommendation by the District, and approval by the Contract Administration Division. The Working Time Report will be signed by both the District Construction Engineer and the District Construction Engineer.

113.1.3 Contractor's Performance Report (Form 420)

The Contractor's Performance Report (Form 420) is a confidential evaluation form that is prepared to evaluate the Contractor's performance on the Contract. The Report is sometimes used in consideration of the Contractor for future work. The Report will be submitted directly to the Director of the Contract Administration Division upon completion of the project. After review, the Report will be forwarded to the Contract Unit, Contract

Administration Division where it will be filed in the Contractor's records.

113.1.4 Materials and Labor Used (Form FHWA 47)

The Report on Materials and Labor Used is used only on Federal-aid projects as required by Form FHWA 1273. It is a record of the total cost of the project, the quantities of materials used, the number of man-hours, and the cost of the labor expended. A blank Form FHWA 47, also available on diskette, should be submitted to the Contractor upon completion of the project. The Contractor is responsible for furnishing the data for the materials and labor portions of the form. The other data on the form is obtained from the project files or furnished by the Division office. The information furnished by the Contractor should be checked for compatibility with the work performed. The original should be forwarded immediately after being checked by the District to the Contract Administration Division, where it will be completed and submitted to FHWA. This report is required for all Federal-aid exempt, non-exempt, and concurrence contracts on the NHS when the final contract amount exceeds one million dollars. Instructions for completing this report are contained on the back of the form.

113.1.5 Contract Completion (Form 416)

Contract Completion (Form HL-416) is the actual acceptance of the work and the release of the Contractor by the Division. This report is prepared by the Project Engineer/Supervisor and is forwarded to the District Construction Engineer for approval and submission through the Director of the Contract Administration Division to the Deputy State Highway Engineer – Development.

113.1.6 Letter of Certification of Materials

A letter of certification stating that all materials used on the project met the Specification requirements is prepared and signed by the Director of the Contract Administration Division. The information used in preparation of this letter is submitted on electronic Form MC-8. The District Construction Engineer is responsible for the accuracy of the statements made on this form.

113.1.7 As-Built Plans

Each project will maintain one set of As-Built Plans, which consists of the plan and profile sheets and the cross section sheets. The As-Built Plans will be maintained by the project as a working set and be retained by the District after project completion.

As-Built Plans show the various bid items as they were actually constructed. A desirable set of As-Built Plans is one that is marked only where a change has been made in the original Plans. All work conforming to the original Plans requires no comment.

Consider the following major items relative to the preparation of As-Built Plans:

1. Horizontal and Vertical Alignment. Any changes in alignment will be clearly shown by recording the revised control points such as PIs, PCs, and PTs. Show the revised grade, R/W and/or controlled access lines. Include sufficient data to permit the re-establishment of centerline, right-of-way line, and grade line at any location on the project. Show equations in stationing due to line revisions.

2. Excavation. The following data need not be shown on the as-built cross sections submitted to the Contract Administration Division: The elevations of "elevation control hubs" will be recorded on the working set of As-Built Plans to verify the

accuracy of original cross sections. Revised sections will be taken where necessary and the monthly cross sections, to substantiate progress estimate payments for unclassified excavation, will be taken and plotted on the working set. Show compaction tests on the working set of cross-section sheets (plan view only, not profile). Tests taken between cross-section stations can be plotted on the section of the nearest station. The as-built sections submitted to the Contract Administration Division will show plan templates, revised original cross sections, and revised grades and slopes with pay lines, where necessary, on the original set.

3. Drainage Structures (Pipe Culverts, Boxes, Headwalls, Inlets, etc.). Show any change from original plan such as location, length, flow line, type, size, etc.

4. Bases, Pavement. Show any changes in type or dimensions of these items with typical sections showing the area affected by this change.

5. Bridges. Show any change such as footer elevations, depth of piling, etc.

The above items are not all inclusive; however, it is essential that all changes from the original Plan be documented so that the As-Built Plans will present a true representation of the project as actually constructed. The As-Built Plans can also be used to plot the clearing and grubbing measurements and seeding and mulching horizontal measurements to ensure that no overlapping or omitted areas are represented for payment.

113.1.8 Quantity Validation Report (With Overruns, Underruns, Reasons)

The Quantity Validation Report on final quantities is submitted by letter by the District Construction Engineer to the Director of the Contract Administration Division, explaining all overruns and underruns. The Report compares plan quantity and final quantity, giving specific and detailed reasons for major variations. Care should be taken to include the applicable Change Orders in the reasons for the variations. The unclassified excavation is shown for the total amounts and segregated by balance stations with explanations according to those balance stations. This Report is the major document for substantiation of the work performed and is used by many agencies in reviewing the project records.

113.1.9 Tax Releases

The Business and Occupational Tax releases from the municipality must be obtained prior to the payment of the final estimate as prescribed by statute of the State of West Virginia, Chapter II, Article 10, Section 11, Paragraph (d), which reads as follows:

> *(d) Prerequisite to final settlement of contract with this State or political subdivision; penalty. — All state, county, district and municipal officers and agents making contracts on behalf of this State or any political subdivision thereof shall withhold payment, in the final settlement of any such contract, until the receipt of a certificate from the tax commissioner to the effect that the taxes imposed by articles thirteen, twenty-one and twenty-four [11-13-1 et seq., 11-21-1 et seq. and 11-24-1 et seq.] of this chapter against the contractor have been paid or provided for. If the transaction embodied in such contract or the subject matter of the contract is subject to county or municipal business and occupation taxes levied or accrued against the contractor has been paid. Any official violating this section shall be subject to a civil penalty of one thousand dollars, recoverable as a debt in a civil action brought by the tax commissioner.*

Section 114

COMPLETION OF PROJECT AND FINAL INSPECTION

114.1 FINAL REVIEW AND VERIFICATION OF PROJECT

Inspection, finalization, and certification begin as soon as the project is started, and continue throughout the project duration until final completion and acceptance. The objective is to locate any items or details of the work that do not conform to Contract requirements and to determine what remains to be performed so that the project will be completed in accordance with the Contract. As portions of the project are completed, the Project Engineer/Supervisor should make a thorough inspection in sufficient time to inform the Contractor of all deficiencies so that the Contractor can make necessary corrections before removing equipment from the site.

At the project completion, the last step of the finalization process is for the District to compare the tentative final estimate with the current QVR to ensure agreement of all quantities paid. Finalization at the District level is an eight-step process which represents completion of a 100% review of the project records for every item in the Contract, including lump-sum items and items that were added to the Contract by Change Orders. Those items or portion of items previously reviewed under the concurrent finalization need not be District checked again. Regardless of whether it be concurrent finalization or finalization at completion of the project, the review should be completed within 15 days of the District's receipt of the Quantity Validation Reports and the Daily Reports.

During the review, each line number will be marked with a red check to signify the review of the item. Checking Daily Reports at different levels within DOH requires the use of a uniform color code system. Project personnel will use green; District personnel will use red when completing this review within 15 days following the District's receipt of the current QVR and estimates; and Central Office personnel will use blue. Other colors may be used to denote pay lines, undercut, etc., if a clear color legend is used.

The following describes the eight-step process for concurrent and final review and verification of the project Steps 4 through 8 are applicable only to the final review:

1. Step 1. The District will review the Daily Reports to:

   a. verify that the location, measurement, quantity, quality, and progress of work are accurately documented and in compliance with the Contract Specifications, Contract documents, and/or established procedures; and

   b. verify the method of measurement, accuracy of "set-ups" for calculations, and subsequent mathematical computations used to establish pay quantities of every item represented for payment on the current voucher tentative final estimate.

2. Step 2. The District will review the current voucher to-date Quantity Validation Report and the Report on Final Quantities to:

   a. verify the accurate transfer of data from the Daily Reports to the Project Records System;

   b. verify that only work performed and accepted in accordance with the Contract is included for payment on the current voucher tentative final estimate;

c. verify that appropriate data was accurately transferred from the Daily Reports to the necessary project documents (e.g., Report on Final Quantities, As-Built Plans); and

d. verify that specific and detailed reasons are given for any variations between the Plan quantity and final quantity of every item represented for payment on the current voucher tentative final estimate.

Any deficiencies discovered during the verification process are corrected in accordance with applicable procedures. Performance of the District level review of the Daily Reports, the current to-date Quantity Validation Report, and the accuracy of the items and quantities represented on the reports are verified by the reviewer's signature (not initials) on each Daily Report and on each Quantity Validation Report.

3. Step 3. The District will review the Project staff's compliance with established PRS finalization procedures. Notify the Construction Engineer of any major deviations for appropriate action to prevent recurrence.

4. Step 4. Non-exempt Federal-aid projects on the NHS with a final Contract amount equal to or greater than one million dollars requires the submission of the following support documents to the Contract Administration Division for further processing:

   a. all Daily Reports and worksheet attachments;

   b. Report on Final Quantities;

   c. As-Built Plans and original cross sections;

   d. Excavation Summary Sheets (Form 414) with secondary computations of the excavation between Plan balance points for comparative analysis purposes;

   e. computer disks containing appropriate project data files exported from the Project Records System; and

   f. unapproved Change Orders included for final payment.

   The letter transmitting the tentative final estimate to the Contract Administration Division should contain explanations of any items that must be resolved prior to payment of the final estimate such as resolution of working time, materials problems, or Contractor's objections to any final quantities. All exempt and non-exempt Federal-aid projects having a final Contract amount less than one million dollars and State funded projects require the following:

   a. resolution of the working time and evidence of Materials Certification;

   b. submissions of the Final Quantity Certification to the District Construction Engineer for signature; and

   c. submission of the Request for Release of Final Settlement Form to the Finance Division for further processing.

5. Step 5. This step is only applicable to non-exempt Federal-aid projects on the NHS having a final Contract amount equal to or greater than one million dollars. Project records are checked by the Finalization Unit, Contract Administration Division in blue to determine conformance. Notify the District Construction Engineer of any major deviations for appropriate action to prevent recurrence. The tentative final estimate and the following supporting documents, with corrections and/or approval noted by the Contract Administration Division, are transmitted back to the District for further processing:

   a. all Daily Reports and worksheet attachments;

b. Report on Final Quantities; and

c. As-Built Plans and original cross-sections.

6. Step 6. The final estimate will be submitted to the Contractor for signature of the Statement of Acceptance on the reverse side of the first page of the final estimate.

7. Step 7. The final estimate along with the following supporting documentation (i.e., fully executed by the Contractor and the District Office) will be submitted to the Contract Administration Division for further processing:

   a. for exempt and non-exempt Federal-aid projects on the NHS with final Contract amount equal to or greater than one million dollars, send the Materials and Labor Used (FHWA 47) to the Contract Administration Division;

   b. for non-exempt Federal-aid projects on the NHS with final Contract amount equal to or greater than one million dollars, send the following to the Contract Administration Division:

      i. Report on Final Quantities;

      ii. Working Time Report (Form 458); and

      iii. Tax Releases from applicable municipalities;

   c. for all exempt and non-exempt Federal-aid projects having a final Contract amount less than one million dollars and State-funded projects, send the following to the Contract Administration Division:

      i. Report on Final Quantities;

      ii. Working Time Report (Form 458);

      iii. Evidence of Materials Certification; and

      iv. Tax Releases from applicable municipalities;

   d. for State funded projects only, send the Financial End Date Adjustment Notification (BF-1 50) to the Contract Administration Division; and

   e. for all projects, a fully executed Contractor's Performance Report (Form 420) must be submitted, under separate cover, to the Director of the Contract Administration Division accompanied by a letter of explanation if the evaluation rating is sub-standard.

8. Step 8. Retention of the Project Records will be in accordance with the DOH Records Management Program.

114.2 FINAL INSPECTION

When all work under the Contract has been completed to the satisfaction of the Project Engineer/Supervisor, he/she will notify the District Construction Engineer and the District Construction Engineer that the project is completed and ready for final inspection. The District Construction Engineer will, in turn, notify the Regional Construction Engineer of the Contract Administration Division, who will then make a formal request to the Federal Highway Administration, if Federal-aid is involved, for a final inspection of the project, and will notify the District Construction Engineer of the date selected for this inspection. The inspection party should consist of the following:

1. Exempt Federal-Aid and State Funded Projects < $1,000,000. The inspection party will consist of Project and District personnel and other DOH personnel, as appropriate (e.g., designer, traffic, maintenance, geotechnical).

2. Exempt Federal-Aid and State Funded Projects > $1,000,000. The inspection party will include the Regional Construction Engineer from the Contract Administration Division and the personnel in Item 1.

3. Non-Exempt Federal-Aid and Concurrence Projects > $1,000,000. The inspection party will consist of the FHWA Area Engineer, the Regional Construction Engineer from the Contract Administration Division and the personnel in Item 1.

The Division reserves the right to review any project records to verify the deficiencies (Contractor or DOH) or to attend any final inspection regardless of the project type or dollar amount. The party on the final inspection will examine the project in sufficient detail to determine that the work is complete in accordance with the Plans and Specifications as amended by Supplemental Agreements and Change Orders. The members should note especially that the drainage system is clean and that all cleanup work has been performed. The note keeper designated by the Project Engineer/Supervisor should record every item or detail that the party making the final inspection considers defective in construction or contractual obligation specified in the Contract documents (see Section 114.3). The list must describe the defect, show its exact location, and specify what must be done to improve the item to an acceptable condition. The Contractor will receive a copy of the Report (Form 467) that cites each punch list item. A copy of the Final Inspection Report is forwarded to the Director of the Contract Administration Division through the District Office.

114.3 PUNCH LIST

114.3.1 Contractor Punch List

In addition to physical construction deficiencies, the Contractor also may be deficient in other Contract obligations. The following also may be included on the Contractor Punch List:

1. Form FHWA 47;

2. Municipal B&O Tax Releases;

3. all current certified payrolls;

4. property owner releases on all waste sites;

5. test results and disposal records for hazardous waste;

6. all Contractor's materials deficiencies (e.g., missing shipping documents, missing test reports, resolution of hot loads placed, HMA placed in rain);

7. working time; and

8. unsigned Change Orders.

114.3.2 DOH Punch List

To ensure that DOH has completed all activities to allow acceptance of the project within the specified time limit, DOH maintains the following DOH Punch List. Use the memo field under Finalization in the Project Records System to validate the DOH Punch List. If finalization remarks are received, enter a new heading in capital letters in the PRS memo section entitled "Department Punch List." The following represents a partial list of what could be placed on the Punch List:

1. samples not taken or not completed by the Division or District including:

   a. coring or smoothness; and

   b. acceptance samples not tested or not evaluated;

   If evaluation is not complete because the Contractor has not submitted the Quality Control samples, stipulate such and ensure that the missing samples are on the Contractor Punch List;

2. reports not submitted or processed including:

    a. District Materials Inspection Reports (MIR);

    b. Records of Contact; and

    c. Change Orders;

3. working time not evaluated; and

4. interdepartmental and/or FHWA negotiations.

When the Contractor has completed the items on the Contract Punch List, the normal acceptance process continues, beginning with the Contract Completion Report, regardless of the status of the DOH Punch List activities.

After the final inspection and after all items on the Contractor Punch List have been properly rectified, the District Construction Engineer will prepare a Contract Completion Report (Form 416) and submit it to the Director of the Contract Administration Division with a copy of the Final Inspection Report attached.

Section 115

RECORDS MANAGEMENT

In addition to the maintenance of regular and accurate records, the management of these records is an equally important function of any organization. Records management is planned control of all types of records in an organization from their creation to final disposition. It may be further defined as the application of scientific control to creating, processing, filing, maintaining, protecting, and disposing of an organization's records. An adequate records management program coordinates and protects the organization's records, sharpens the effectiveness of records as a management memory, controls the time, equipment, and space allocated to records, and helps to simplify intra-organizational communication problems.

115.1 RECORDS MANAGEMENT

115.1.1 Federally Funded Projects

Records management for Federally funded projects includes the flow of all project records from the inception of the project through the date the final voucher is paid. Project records, which include Project files, District files and the Contract Administration Division's files (i.e., master files), constitute primary pay documentation. The master files will include the project supporting records that were submitted with the tentative final. The Project Office files, the District Office files, and the Materials files that constitute supplemental records, will be placed in temporary storage in the District. During temporary storage, all records will be available for audit by the Federal Highway Administration, independent auditors, in-house auditors, or any other authorized party. The period of retention in temporary storage will vary depending on the type of project to which the records pertain. For Federal-aid projects, the minimum period of retention is three years after the final voucher is paid. A report on Federally funded projects will be furnished to each District Office by the Finance Division every six months stating the project number, the date the final voucher was paid by FHWA, and the date that the project files are closed. This report will serve to notify all concerned that the files of projects listed thereon and held in the District may be closed and put in storage to comply with the retention period required by FHWA.

115.1.2 State Funded Projects

The management program of records of the various state agencies is explained in the **West Virginia Administrative Regulations Manual**. A copy of this **Manual** should be made available to each of the District clerks entrusted with responsibility for records management.

Except for As-Built Plans and the original cross-sections, all records in the District Office and in the Central Office, Contract Administration Division, will be disposed of three years following final payment to the Contractor. As-Built Plans and original cross sections must be retained permanently, either in hard copy or other media form.